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## LABOR

### LAX LABOR SAFETY PRACTICES IN CONSTRUCTION DEPLORED

#### Labor Safety is Paramount

Moscow STROITEL'NAYA GAZETA in Russian 22 Jun 83 p 2

[Article by I. Ianshin, central committee chairman, trade union for construction and construction materials industry workers: "Protect the Working Man"]

[Text] Labor safety and the health of the Soviet people is an important part of the socio-economic program for the development of our society, and it receives the constant attention of the party and the government. This was also stated convincingly at the June (1983) Plenum of the CPSU Central Committee, which showed special concern for the workers' laboring and living conditions. Every manager, no matter which post he holds is obligated to keep in mind his personal responsibility to the party and the state for ensuring labor safety.

The CPSU Central Committee wishes to remind us of this important requirement at this time, of the alarming situation with industrial injuries in our own sector. In the first five months of the year a number of ministries and administrations have observed an increase in the number of accidents. These include the Mintyazhstroy [Ministry of Construction of Heavy Industry Enterprises] of the Ukrainian and Kazakhstan union republics; Glavlipetskstroy [possibly Main Administration for Construction, Lipetsk Oblast]; the All-Union Tsentrtyazhstroy [Central Construction Administration for Heavy Industry Enterprises] of Mintyazhstroy, USSR; the BSSR Minpromstroy [Ministry of Industrial Construction]; Glavbashiroy [possibly Main Administration for Construction in the Bashkir ASSR]; Glavsrednevolzhskstroy [possibly Main Administration for Construction, Central Volga Region]; Glavbryanskpromstroy [possibly Main Administration for Construction Industry, Bryansk Oblast]; Glavstavropol'promstroy [possibly Main Administration for Construction Industry, Stavropol' Oblast], of Minpromstroy USSR; MoSSR Minstroy [Ministry of Construction]; Glavaltaystroy [possibly Main Administration for Construction, Altay Region]; the Pskov, Kostroma and Mordovo Territorial Administrations for Construction, Minstroy USSR; Glavtekhnontazh [Main Administration for the Assembly of Technological Equipment and for Installation Operations] and Glavmontazhavtomatika [Main Administration for Planning and Installation of Automation Equipment] of Minmontazhspetstroy [Ministry of Installation and Special Construction Work, USSR]; Glavsakhalinstroy [possibly Main Administration for Construction, Sakhalin Region]; Minstroy materialov [Ministry of the Construction Materials Industry], MoSSR; and Glavvostoktsement [Main Administration of the Cement Industry of Eastern Areas] of the Ministry of Construction Materials Industry, USSR.



The trade union central committee requires that the trade union committees make a close, principled evaluation of such instances; that they be concerned for the people, and place primary emphasis on safety conditions in all our work. However, the situation which obtains shows that a number of republic, kray, and oblast trade union committees are not approaching the solution to this most urgent task with the required degree of responsibility. The trade union committees of the Altay Kray, and the Khmel'nitskiy, Bryansk, Lipetsk, Grodno, Vitebsk, Omsk, Chelyabinsk, Novgorod, Karaganda and certain other oblasts have not placed emphasis on questions of labor safety.

Establishing safe and healthy working conditions has not yet become the paramount obligation of the economic administrators, or the trade union organizations, of engineering and technical personnel, and the workers themselves. In a number of places they are not paying the required attention to the experience of the brigade of Hero of Socialist Labor, A. Basova, who has worked very productively for many years without injuries or accidents.

At a number of construction projects and enterprises there is no system for taking preventive measures against injuries and illness, and there are violations in manufacturing methods and safety rules. Engineering training is at a low level, not all projects have work plans; and at those places where such plans exist, they do not include a plan for labor safety. Education and training are conducted either as a formality or are not conducted at all.

A large number of accidents occur with the workers who were drunk on the job. This testifies first of all of the low level of exactingness on the part of the administration and the trade union committees, and of poor educational work in the construction collectives.

Last year the industrial safety inspectorate of the trade union determined that, as a result of violation of labor safety rules and standards, there were work stoppages at 30 enterprises, 496 shops and sections, and at 13,974 pieces of machinery and equipment. The guilty were punished severely. Practical experience shows that industrial injury rates show a systematic decline in those places where the first managers who arrive at the construction site place primary importance on working and safety conditions, and demand the same of the managers of the sub-units and services.

They are also not making good use of such an important lever as collective agreements on labor safety. Certain trade union committees are not properly monitoring their execution. As a result, the measures which were envisaged remain not carried out.

Proper conditions have been established for further improving labor safety and the reduction of industrial injuries, during the years of the 11th Five Year Plan. More than 200 million rubles are allocated for these purposes annually. A wealth of experience has been accumulated in the sector, and all the measures for improving the general conditions of the working man, or for improving his labor productivity, have been put into practice. Modern recreation and shopping centers, supplied with everything necessary for one's relaxation, have been established at the large-scale construction projects. There has been

growth in the amount of technical equipment furnished to our construction projects and enterprises, and the nature and content of the work has changed. In the two years of the five-year plan, nearly 400 large construction materials enterprises have been set up, hundreds of operating enterprises have been modernized and rebuilt. Working conditions have been improved for nearly 265 thousand workers in the sector.

Many economic and trade union organizations are conducting systematic and purposeful work on improving working conditions, and introducing modern methods for protection and prevention of industrial injuries. Regular meetings are held with managers and team chiefs on questions of labor safety; a system for monitoring safety has been introduced; and there are improvements in providing the workers with personal and collective protection gear, materials, and implements.

New organizational forms for labor safety have now sprung up in trade union work. A list of mandatory organizational measures for assuring work safety has been developed and sent to all construction collectives. A system for labor safety management has been put into practice. The system will, in essence, systematically organize the work of all the production teams in preventing injuries. The system permits planning ahead of time a coefficient of safety, and to characterize the state of the work positions. Thus one may evaluate the activities of the collectives according to the coefficient.

A new procedure for beginning construction is now becoming more and more widely used. In Moscow, Rostov-na-Donu and certain other oblasts, the Industrial Safety Inspectorate of the trade union central committee and Gostekhnadzor [State Inspectorate for Technical Supervision] give permission to open a construction site. Permission is given only after careful inspection of the readiness of the construction site—depending upon whether, the construction site is provided with a work plan; whether approach roads have been built; whether there are sites for setting up cranes and storing building materials; whether temporary water and electricity lines have been set up; whether safety measures are ready; public sanitation facilities; etc.

Comprehensive plans for 1981-1985, worked out in accordance with recommendations from AUCUTU and the USSR State Committee for Labor and Social Problems, envisage bringing working conditions into line with the rules and standards, for 415,000 working people. Planned construction and reconstruction of public sanitation facilities envisages 100 per cent support for the construction workers.

At the same time, as the results of a check show, these plans were unfulfilled in 1982 in a number of important sections. This situation obtained at the enterprises and organizations of the Kirov, Vladimir, Kursk, Penza and certain other oblasts. In many construction organizations tasks were unfulfilled for reducing the number of working positions with dangerous and harmful working conditions; or reducing the number of workers assigned to heavy physical labor. Reducing the losses from temporary incapacitation by only one per cent permits the sector to fulfill additional construction and installation works with a value of 25 million rubles.

Labor Safety Is Paramount—this must become the working motto of all of the economic administrators and trade union organizations, of the engineering and technical personnel, and of all workers. There can be no justification for any sort of references to the objective difficulties in this matter. Ordinarily, such references are used in an attempt to cover up inefficiency, sloth, and occasionally even negligence in the matter of labor safety.

The percentage of injuries resulting from a fall from a high place remains high in the sector. In the last year this indicator grew to 26 per cent. Practical experience shows that in those places where high-wire workers are strictly supervised in accordance with their work plan, and carry out all of the requirements for organization of their working positions; where three-stage control is purposefully implemented; and what is especially important—where prior to the start of the shift the workers themselves check for labor safety right at their working positions, noting their remarks in a special booklet; at such places industrial accidents are completely eliminated.

For those construction workers who work in high places, the number of mass-produced safety belts has now been increased. They are light, reliable, and are equipped with shock-absorbers. And if not all construction workers use them, then this is a matter of discipline, of a low level of exactingness on the part of the administration and the trade union committee.

At times protective equipment is lacking. The reason for this is the negligence of the administrators, and the lack of motivation in the corresponding ministries and departments for earnestly concerning themselves with supplying the projects with such equipment. This question remains unresolved year in, year out. The funds for sheets made of aluminium or other alloys, allocated by Gosplan USSR and Gosstrib USSR for the needs of labor safety, are virtually unutilized.

It is also very important that the funds for setting up technical safety measures at the working positions are not established in legislation. Therefore, the trade union central committee appealed to Gosstroy USSR with a request to assign VNIPI [All-Union Scientific Research and Planning Institute] for Construction Labor to include in the ENiR [Unified Norms and Rates] the rates for fulfilling the required operations for safety equipment.

Improving labor conditions and safety depends to a great extent on the normative and technical documentation, and upon establishing and introducing state standards for labor safety. The operating safety of certain types of equipment and machinery still does not completely meet modern requirements. This state of affairs requires us to become more involved with specific questions of equipment safety, utilizing for these purposes the state standards.

Student construction detachments must also become a subject for the trade union's special concern. The task of the trade union organizations and the economic administrators is to assume special control over the detachments' readiness to take up their duties; to check on the state of every construction project; and to check the students' working and living conditions. The results of the checks should be examined at operational groups in the republic ministries, and at the administrations of the construction projects and trusts, in order to rule out instances of student labor on unprepared projects.



The trade union organizations should strive to achieve the state, where each worker in the sector is filled with a sincere feeling of responsibility for the labor safety of his comrades, and his own personal safety on the construction project or at the enterprise. Socialist competition should be more closely associated with labor safety. Not one single collective may claim a prize-winning position in the competition in the presence of severe accidents and the growth of industrial accidents. It was for this very reason that 34 organizations were excluded from the competition last year, for the title of winners in the All-Union Socialist Competition.

Creating safe and healthy working conditions is a complex matter, but it is entirely practicable. The achievements of the thousands of collectives in the sector testify to this—those which have provided healthy and safe working conditions; and the experience of 15,200 working collectives, which follow the methods of A. Basova, working highly productively, without injuries and accidents.

#### Special Care Urged for Student Detachments

Moscow STROITEL'NAYA GAZETA in Russian 1 Jun 83 p 3

[Article by O. Bukley, deputy chief, Labor Protection Department, trade union central committee for construction and construction materials industry workers: "On the Eve of the Third Semester"]

[Text] Final preparations are going on in the VUZ's and tekhnikums in the land for the third semester, the working semester. This year more than 400 thousand students will set out for the construction sites of our sector. And it is precisely now, in the final weeks prior to their departure, that it is very important to retrace the steps taken to ensure that safe working conditions have been established for the student construction detachments (SCD).

At the present time a definite system has already been established for ensuring labor safety for the SCD's. The trade union central committee, together with the central staff of the Komsomol Central Committee has been developing and is continually improving the normative documents which regulate the preparation for and reception of the student detachments, supporting their field of operations, and organizing their work and living arrangements. For instance, upon the suggestion of the trade union central committee a procedure was established for assigning to the detachments accountable engineering and technical personnel—foremen or superintendents—for resolving questions of production and labor safety. The trade union committees and technical inspectors have organized continuous monitoring of the situation, and has enlisted a wide circle of trade union activists.

All the technical labor inspectors are assigned by name to the student detachments for the period of the summer work semester. They take part in the commissions from the educational institutions, and administer examinations to the workers and the supervisors on labor safety rules; they instruct the SCD foremen and commanders on questions of organizing work at the construction site; and train public inspectors from among the students. In May and June technical inspectors, together with other representatives of state supervision, will be conducting a mass check of the readiness of the enterprises and organizations for receiving the student construction detachments.

Of course, all of this has had a significant effect on the state of affairs in the construction detachments. However, injuries have still not been eliminated.

The preconditions for an emergency are already being laid down, while the SCD's are being formed. This takes place where they forget that students are a special part of the country's labor resources. Last year a number of violations were allowed during the formation of a construction detachment at the Kostroma-stroymaterialy [Kostroma Construction Materials] association. Here, students who had not yet reached their 18th birthday were utilized for heavy construction work as bricklayers, which is forbidden by the decree of the Goskomtrud, USSR, and the AUCCTU, "On the List of Manufactures, Professions and Work with Heavy and Harmful Work Conditions, on which it is Forbidden to Employ the Labor of Persons Younger than 18".

It is especially important to speak about the minors. Illegally using minors in SCD's is widely practiced; in fact, detachments are even formed which consist entirely of students who have not reached their 18th birthday. The AUCCTU and the Komsomol Central Committee permit including this contingent of young people only in agricultural detachments, but not construction detachments, in consideration of the greater danger in construction work and the presence of heavy labor. However, on the initiative of certain oblast organizations of the Komsomol and departments of public education, detachments are being formed of school children who are being used on forbidden projects. As a rule, the industrial safety inspectorate of our trade union central committee forbids such detachments to work.

A special document is required for each construction detachment for permission to work. When drawing up such a document, the organs of state supervision take the following into consideration: do the construction projects have a work plan; is their machinery, mechanisms and protective gear in good working order; etc. Special concern is given to the organization of transportation of students to work and back, on specially-equipped vehicles, with skilled drivers. Right now, on the threshold of the summer work semester, we wish to remind the administrators of the construction organizations which use SCD's of the high degree of exactingness toward the responsible officials, of their personal responsibility for undeviatingly observing the established procedures for organizing summer work for student detachments; for observing labor safety rules, legislation on youth labor, and the organization of the student's free time.

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## LABOR

### ECONOMICS PROFESSOR ANALYZES MEASURE OF LABOR FACTORS

Moscow PLANOVYE KHOZYAYSTVO in Russian No 6, Jun 83 pp 102-107

[Article by Professor and Doctor of Economic Sciences V. Radayev under the heading "Continuing Discussion": "The Measure of Labor and the Main Factor in its Development"]

[Text] The current stage of economic development is characterized by a substantial growth in the role of the personal factor in production. The attitude of the worker towards labor, his activeness and initiative -- all have been transformed into one of the most important factors in increasing production efficiency. In order to successfully resolve the tasks set by the 26th CPSU Congress, as was stressed at the November (1982) CPSU Central Committee Plenum, we need to increase the activeness of the working masses. This is to be explained first of all by the qualitative change in the workforce which has occurred over the last 20 years: the level of general and occupational training of the workers has changed substantially. Suffice it to say that the number of workers with a higher or secondary (complete or incomplete) education rose from 40 to 80 percent during the 1959-1982 period. Also of considerable importance is the major improvement in the material well-being of the populace. Thus, real per capita income for workers and employees increased more than four-fold during the 1940-1981 period. All this complicates the system of labor incentives and incentives to increase labor activeness. The primary incentive remains material -- wages -- of course. It would be early and unjustified to speak of the priority of other motives. However, the role of such criteria as satisfaction with job content and working conditions, living conditions, occupation, relationships in a given collective, sociocultural environments, and so forth, has increased substantially. There has been a relative diminution of the importance of wages and bonuses, since the structure of worker needs has changed in connection with their improved cultural-technical level: the proportion of intellectual and social needs has increased.

The growth in the role of the personal factor in production and the increasing complexity of the system of worker incentives testify to a qualitatively new and important phenomenon, and one requiring consideration by society, which is characteristic of mature socialism -- increasing the socioeconomic prestige of labor<sup>1</sup>. But at the present stage, society cannot yet fully actualize the indicated

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<sup>1</sup>See: S. Dzarasov, "Interaction of Labor and Rewards" in PLANOVYE KHOZYAYSTVO, No 3, 1982; Yu. Pakhomov, "Management Mechanism and the Increasing Socioeconomic Prestige of Labor Under Socialism" in PLANOVYE KHOZYAYSTVO, No 10, 1982.

factors of increased production efficiency, which is largely to be explained by objective causes. The technical status of individual enterprises and branches still presupposes a significant proportion of difficult, low-skill manual labor. Thus, in the late 1970's, about two million people with (complete and incomplete) secondary educations, primarily young people, were employed at low-skill manual labor. A third of the specialists with a secondary special education were employed in production. All this created a gap between the current level of worker training and their working conditions, lowering interest in improving the results of their activity and undermining the prestige of labor. Such factors as monotony and the noncreative nature of labor also act in this direction.

Based on objective conditions, now that labor is no longer a vital first necessity and highly productive, there are also other factors lowering the labor activeness of workers: lack of a proper bond between payment for labor and the end results of labor, incomplete commodity coverage of worker monetary revenues, and so forth. One consequence of the incomplete actualization of the growing socioeconomic prestige of labor has certainly been inadequate rates of labor productivity growth, high personnel turnover, and so on.

Thus, the resolution of all these problems requires first of all improvement in the economic mechanism as a whole and consequently in production relations. It is important that the latter correspond to the level and character of productive forces and to their needs. Hence, the important role of society and the state and its management organs in ensuring that production relations are "pulled up" to correspond to rapidly-progressing productive forces.

Increasing the socioeconomic prestige of labor requires a complex of measures and the participation in this process of all links at all levels of the national economy. Thus, a national-economic approach linked to improving the economic mechanism, that is, socialist production relations as a whole, presupposes certain steps in each link. Moreover, it must take into account the positive experience accumulated by individual enterprises (production associations) and branch and regional differences. Among the specific ways being proposed to elevate the prestige of labor and to increase the activeness and creative initiative of the workers are steps to augment the role of material and moral incentives and increase the responsibility of collectives and individual workers, strengthening the bond between worker wages and the end results of labor activity, the actual contribution to the public wealth, a more accurate measure of the labor of each worker and collective and, in particular, through the use of different indicators at different administrative levels; finally, there are steps to broaden enterprise (association) independence as a necessary means of solving many of the above-mentioned problems and others.

However, all these proposals themselves contain a number of questions. For example, strengthening the link between wages and end results is connected with the question: what should we understand "end results" to mean? The proposal on broadening enterprise independence assumes first an explanation of what it must consist of and what it should be oriented towards. Given all its complexity and multifaceted nature, overall improvement in the economic mechanism assumes definition of its general direction. It seems necessary that we also resolve a number of theoretical problems in order to successfully implement the measures planned; one such problem is the measure of labor under present conditions (its content, recording, measure, evaluation and reward).

The measure of labor embodies the totality of labor quantity and quality. As a concrete expression of the unity of these aspects of the labor process, it is actualized in the concrete result of labor (product). Dissimilar results in the activity of different workers (collectives) express, in this sense, differences in their measures of labor. The measure of labor depends on the development of labor quality, as well as change in its duration. Its socioeconomic role under socialism is determined by the objective necessity of linking it to the measure of consumption. The higher the result achieved by a worker (the higher the measure of his labor), the greater the material reward he receives from society. Only an accurate recording of the measure of labor for each worker (collective) will ensure a proper dependence (correspondence) between the level and degree of satisfaction of its needs and the actual labor contribution to the social product, the true prestige of labor inherent to socialism and the high labor activity of each person. "Distribution relationships and the strictest monitoring of the measure of labor and the measure of consumption must be a central focus of party attention in governing socialist society," Yu. V. Andropov, CPSU Central Committee General Secretary, has stressed.<sup>1</sup>

The embodiment of the measure of labor in a specific result signifies that posing the question of the necessity of strengthening the tie between the reward (wages) of a worker (collective) and the end result of his work is not an alternative to strict observance of distribution based on labor quantity and quality. Naturally, the higher the quantity and quality of labor expended (that is, its measure), the greater the end result must also be. Therefore, increasing the reward to a worker for a high end result achieved by his activity is simultaneously an increase in the measure of its consumption for a higher measure of labor (increased quality or quantity).

At the same time, the accent on linking measures of consumption (wages) to end results is currently justified. The increasing complexity of the economic system results in a growing importance of the reality of differences between end and intermediate results and the necessity of orienting the economy towards achieving high end results. The conditions of large-scale production characteristic of mature socialism lead to high losses in the national economy if an optimum relationship between intermediate and end results is not ensured. The production dynamism inherent to the scientific-technical revolution increases the importance of conformity of the production structure to social needs, that is, it demands prompt changes in the quality of various types of social labor.

The growing role of recording the measure of labor through end results is being determined not only by the fact that the form of the end result has acquired greater importance than before, but also by the fact that the measure of labor itself has turned out to be quite mobile, changing under the impact of a constant influence being exerted on the content of labor by the scientific-technical revolution. Of course, any result of the labor of a worker (collective) represents a certain measure, expression, of labor. However, socialist society, when recording and evaluating the measure of labor, proceeds from the fact that is must

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<sup>1</sup>Yu. V. Andropov, "Ucheniye Karla Marksa i nekotoryye voprosy sotsialisticheskogo stroitel'stva v SSSR" [The Teachings of Karl Marx and Several Questions of Socialist Development in the USSR], Moscow, Izd-vo Politizdat, 1983, p 16.



adequately express full use of the material and personal factors available at a given production facility, as well as the opportunities for and achievements of progress in productive forces. This is especially important now, when the economy is in transition to primarily an intensive path of development, with the scientific-technical revolution determining rapid improvement in the means of labor and technology and improved worker skills.

Scientific-technical progress is becoming a primary factor in the development of the measure of labor, one requiring consideration in the measure of labor on the part of society. Use of its achievements is the basis for solving all the most important problems. Thus, overcoming heavy, unskilled manual labor, improving working conditions and enriching labor content in the national economy presuppose the comprehensive mechanization and extensive automation of production. Scientific-technical progress ensures acceleration of labor productivity growth, improvement in product quality and increasing numbers of products (overcoming the deficit in a number of goods) and is the most important basis for increasing production efficiency and improving the material well-being of the populace. It is emerging as the material basis for developing the creative nature of labor and for ensuring comprehensive development of the worker personality. Its role as a key link in solving the problems facing us finds reflection in the strategic line of economic development aimed at production intensification which was outlined at the 24th through 26th CPSU Congresses. The November (1982) CPSU Central Committee Plenum emphasized once again, referring to national economic reserves, that these reserves must be sought in accelerating scientific-technical progress, in the broad, rapid introduction of scientific and technical achievements and leading experience into production. However, the policy of intensifying production and accelerating scientific-technical progress is being implemented slowly. The primary reason is imperfection in the existing economic mechanism. And the weakest link in it, we feel, is the underestimation of those changes occurring objectively in the measure of labor, failure to take fully into account the achievements of scientific-technical progress in it.

In the economic mechanism, the measure of labor must first of all be issued by society to each collective (worker) in the form of a specific plan assignment. But this plan must fully take into account all the resources and opportunities of the collective (worker), as well as the prospects of scientific-technical progress, that is, it must ensure the attainment of high national economic results. The degree of fulfillment of such a plan (degree of actualization of the measure of labor) also determines, when evaluated by society, the corresponding level of the measure of consumption. The primary thing thus is to take into account in the plan the necessary changes occurring in the measure of labor under the impact of scientific-technical progress.

The economic mechanism influences the measure of labor along many lines: planning personnel training, perfecting production organization and structure, labor organization normatives, evaluating the measure of labor (end result), and so on. We think it important that constant improvement in labor quality be ensured on the basis of recording the achievements of scientific-technical progress. In the reproduction process, the economic mechanism performs this task through a certain evaluation of the measure of labor (end result), which must also stimulate workers to perfect production and improve their skills, that is, a high result of their activity.

The question is: towards what must the producers be oriented by the economic mechanism in order that their measure of labor will always be embodied in a high national economic end result? Inasmuch as the existing economic mechanism orients producers foremost towards plan fulfillment, plan quality thus acquires exceptional importance. At the same time, plans often fail to reflect the measure of labor level objectively necessary for given conditions when the plans are insufficiently taut. In this instance, the actual measure of labor as expressed in an implemented plan turns out to be understated as compared with what is objectively possible and necessary, and the same applies to the end result. As a result, it turns out that a high reward can be obtained for a low measure of labor, and the reverse. Outstripping wage growth relative to labor productivity has occurred at a number of enterprises as a consequence of this nonconformity. Such a mechanism undermines the prestige of labor and lowers worker labor activeness and production efficiency.

Were all enterprises to adopt taut plans, the level of the plan assignment would correspond to the actual possibilities. It was along precisely this line that the CPSU Central Committee and USSR Council of Ministers decree of 12 July 1979 anticipated a number of steps presupposing a changeover from planning on the basis of the evolved indicators dynamic to planning based on resources reflected in enterprise (association) "passports." However, the main thing in any case is the fundamental sense of the measure of labor evaluation, the conformity of labor results to the actual potential of the worker (collective), stimulating improvement in collective activity and a higher measure of labor.

It has been proposed that the measure of labor be evaluated not on the basis of plan fulfillment but on the basis of the level of results achieved. However, such an evaluation does not ensure accurate recording of the primary factor influencing the development of labor activity under present conditions and, consequently, the change-over to it cannot be viewed as a determining direction for perfecting the economic mechanism for heightening the role of the plan in ensuring constant development of the measure of labor of each worker and collective. Achieved level is the better use of all resources and reserves now, bringing the existing technical level of production into play. Although this system presupposes some recording of the achievements of scientific-technical progress (in particular, during the annual review of enterprise reserves, passports, and so forth), on the whole, it is oriented basically towards current reserves. The "shady side" of evaluating "by level" is that it sets up opportunities for some preservation of the technical level of production and does not fully include or take into account features of scientific-technical progress such as its high dynamism.

A high actual result (taut plan) might not take into consideration the achievements of scientific-technical progress, that is, the measure of labor being evaluated (result) may not reflect the primary factor influencing it. In this instance, the stimulation would not orient production towards intensification and increased efficiency and would not fully meet the demands of society. Only incomplete consideration of the achievements of scientific-technical progress when evaluating the measure of labor could explain the following: for many years, plans for introducing new equipment have been carried out by 85-90 percent; the release of obsolete (in production for more than 10 years) equipment has constantly increased. Whereas it comprised 16.2 percent of the output released by the 11 machinebuilding ministries in 1967, the figures were 76 percent in 1976 and 30.6 percent in 1981.



Full recording by the economic mechanism of the primary factor determining the nature and level of the measure of labor is the fundamental solution to the problem of comprehensively increasing the prestige of labor and transforming it into a leading factor in increasing the labor activeness of workers and the efficiency of production. This signifies that recording the level of use of the achievements of scientific-technical progress must be the basic thing in planning and stimulating end results. The November (1982) CPSU Central Committee Planum emphasized that the unification of science and production must be facilitated by planning methods and the material incentives system.

But how do we ensure the practical "introduction" of these achievements into the measure of producers' labor so that the result embodying it will correspond to the rapidly growing and qualitatively improving needs of society? Of course, the basis for this is a high level of scientific developments as applicable to all spheres and branches of the national economy. The advantages of a planned economy are being actualized in this area in the development of a long-range (20-year) Comprehensive Program and Scientific and Technical Progress. The scientific-technical progress programs now being implemented are of important significance to the intensive introduction of the achievements of the scientific and technical revolution into production. Over the past 20-25 years, output updating has increased 3.5- to four-fold, even more in the leading branches. During the 1966-1980 period, society's expenditures on wages in the area of science and engineering more than doubled and expenditures on the material base increased nearly four-fold.

However, at the national economic level, the demands of scientific-technical progress are still not being fully taken into account and they are still being linked inadequately to production. Thus, in terms of availability of capital to labor and the rates of increment in it, we have observed a substantial lag in the area of science and engineering behind material production. While noting the important role of these programs in accelerating scientific-technical progress, we must note that work on drawing up the programs has been done using a method which has not ensured full involvement of the problems of science and engineering with the problems of economic and social development. As a result, the state plan for the first half of 1982 was met by 93 percent in a products-list cross-section of scientific-technical programs and by only 79 percent in terms of new equipment introduction.

Much attention is being paid to perfecting the organization, planning and stimulation of scientific-technical progress within the branches. Of important significance are the ministry job-authorization orders to enterprises. The scientific-production associations are called upon to actively assist in uniting science and production. Cost-accounting work methods, in which worker incentives are linked to the impact achieved, and so on, are being intensively introduced at institutions concerned with scientific research and experimental design developments (NIOKR). However, all these progressive steps have not solved the fundamental problem of the limited inclusion of scientific-technical achievements in production. Thus, scientific developments and production activity in scientific-production associations are for practical purposes separate, with the latter frequently predominating. As a result, this important form of scientific-technical progress organization, like other progressive measures, has turned out to be a half-measure, due to the fact that planning and stimulating the introduction of new equipment and the overall results of enterprise (and other-link)

economic activity are in practice done separately. It turns out that the measure of labor which has been established (and is taken into account) in the planning assignment for enterprises and on whose basis the results of their activity are being evaluated ends up being divorced from the achievements of scientific-technical progress and does not presuppose their integral use. Using such a measure of labor, the Ministry of Instrument Making, Automation Equipment and Control Systems and the Ministry of Agricultural Machinebuilding, for example, achieved high indicators in 1980 in terms of production volume (ensuring growth rates of 108 and 103 percent, respectively, in terms of the preceding year). At the same time, items corresponding to the best domestic and foreign models occupied quite a modest proportion of their output volume. Analysis showed that, in spite of the mastering of new machinery and equipment, updating of output and improved product effectiveness each year, the machine-building ministries and production scientific research institutes, design bureaus and enterprises are still paying insufficient attention to designing new equipment corresponding to the highest quality category.

Solving the problem of mandatorily "introducing" into the measure of labor the achievements of scientific-technical progress can obviously be ensured only by recording and evaluating this primary factor characterizing that measure in the overall results of enterprise (production association) and other-link economic activity. The overall basis of such introduction remains the Comprehensive Program of Scientific and Technical Progress and other scientific-technical programs. In other words, the branch and enterprise control figures must rely on a 10-15 year scientific-technical progress perspective and must express these prospects in assignments on basic products list, quality level, labor productivity and production volume. Enterprises outline the foundations of specific five-year plans and work out current annual plans with consideration of these assignments. If the overall results of enterprise economic activity (their measure of labor and its evaluation) are built on top-priority consideration and use of the achievements of scientific-technical progress, without which they will not be able to ensure these results, then the primary interest of enterprises will be directed towards "procuring" and introducing new equipment as a most important factor in carrying out the plan assignments set them.

Such a procedure presupposes the existence for enterprises of an integral system of planning and stimulating the end results of their economic activity which will, however, take into account when measuring their labor the achievements of scientific-technical progress. In our opinion, it overcomes the heretofore "disadvantageousness" to enterprises of introducing new equipment and forces them, as it should, to "chase after" new equipment. Moreover, qualitatively new incentives will appear in the activity of scientific subdivisions: the one-sided interest (just scientific research institutes) in introducing new equipment will be eliminated and the equipment consumer enterprise will in its own interests make greater demands on the scientific research institutes. The mutual interest of producers and scientific subdivisions will strengthen cost-accounting relations which have evolved between them, and so on.

The search for the best solutions in attaining an end result will create in the collective an atmosphere of creativity, an orientation towards using all reserves and high worker interest, and it will stimulate broader worker participation in production management. The higher end results achieved in this regard

and the increased production efficiency will become a basis for meeting worker needs, overcoming the relative scarcity of individual products and full availability of goods for worker monetary revenues, which will facilitate even greater worker labor activeness, that is, fuller actualization of the socioeconomic prestige of labor.

The enterprise turns out to be the decisive structural link in solving the problem of maximum consideration of the measure of labor with the primary factor influencing it. This is no accident: it is not the individual worker who emerges as the end result in whom the measure of labor is embodied when recording it among various workers, but the worker collective, that is, the enterprise (production association) as a structural unit. Consideration of activity results on the basis of introduction of scientific-technical achievements is possible first of all at the level of this link. The evaluation of the individual measure of worker labor is extremely important in and of itself, of course, and also presupposes mandatory consideration of these achievements. However, it occurs within the enterprise framework and is an internal element of it, a consequence of the mechanism whereby the aggregate worker of the enterprise as a whole functions. Increasing the prestige of labor and the labor activeness of the individual worker therefore can be ensured most successfully only on a base of effective collective labor yielding a high end result.

Solving the problem underexamination here presupposes broadened enterprise independence. The reference is essentially to refining the status of enterprises in the economic system under large-scale production conditions, with a higher degree of production collectivization and accelerated scientific-technical progress. In its material-technical aspect, this (broader independence) is associated with the expansion of enterprise functions in implementing scientific-technical progress and organizing the introduction of new equipment. In its socioeconomic aspect, it presupposes a greater enterprise role in overcoming difficult unskilled manual labor, in developing work content and improving working conditions, as well as continued improvement in the collectivist principles of production management. This problem was reflected in the published draft USSR Law on Labor Collectives and Increasing Their Role in the Management of Enterprises, Institutions and Organizations, in increasing the labor activeness and initiative of the masses, in strengthening the role of material and moral incentives. The broadening of enterprise independence at the present stage is a necessary condition for solving not only production, but also important socioeconomic tasks in building communism. It will permit the creation of conditions for better collective use of the available opportunities and reserves and will lead to a higher measure of its labor and the attainment of high national economic end results, to a greater conformity of the measure of labor and the measure of consumption.

Continuous elevation of the measure of labor at each enterprises presupposes a possibility of choosing scientific-technical progress development variants, strengthening the role of enterprises as consumers of new equipment (including the possibility of choosing a particular scientific research institute, design bureau, and so forth), and broadening rights to use financial resources, in particular, in cost-accounting relations with scientific institutions. As a producer, the enterprise must have a greater degree of freedom (reduced range of decreed indicators) and must build its own relations with society (the state) on

a normative basis. Enterprise responsibility for all its actions must be increased correspondingly. Broader enterprise (leadership) opportunities to regulate the number of its personnel would be of substantial importance.

Enterprise use of means of rewarding results achieved is not only a consequence of particular activity results, but also an obligatory condition of high results in the future. Therefore, it is important to ensure the use of incentive funds to satisfy the diverse needs of the enterprise collective -- in strict accord with the result achieved, with the measure of labor. Meeting production needs plays a large role, in fact, it is these very needs which are directly linked to actualizing the achievements of scientific-technical progress. In this connection, the question of a system of full material back-up of enterprise production development funds requires effective resolution. An analogous problem also arises in connection with the sociocultural measures and housing construction funds.

Broadening enterprise independence will become a most important means of ensuring an organic unification of scientific-technical achievements and production, that is, the development and actualization of that measure of labor which is objectively inherent to the modern economy. This mandatory recording in the measure of labor of the primary factor influencing it is becoming a decisive condition for increasing the socioeconomic prestige of labor, increasing the labor activeness, initiative and creativity of the workers and improving production efficiency.

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## LABOR

### ECONOMIST POINTS OUT NEED TO REFINE NORM, WAGE PLANNING

Moscow EKONOMICHESKAYA GAZETA in Russian No 31, Jul 83 p 10

[Article by K. Volkov, candidate of economic sciences: "Labor Productivity and Wages"]

[Text] One of the most important problems in improving distribution ratios is insuring the necessary conformity between production volume growth, labor productivity and wages. You see, the conformity of the population's monetary income and available goods is determined by this. As is known, the correlation between labor productivity growth and wages has turned out to be unfavorable in the national economy during recent years. During the 10th Five-Year Plan, for example, a wage increase of 0.84 percent was required for a one percent increase in labor productivity. This exceeded the planned figure.

Of course, inadequate growth rates in labor productivity primarily had an effect here. The still persisting practice of adjusting production plans in the direction of lowering them without adjusting the wage fund also had an effect. In speaking about this, Yu. V. Andropov pointed out during a meeting with Moscow machine-tool builders that production output is decreasing as a result of this but wages remain as before. In addition, bonuses are still often being given for the fulfillment of a lowered plan.

It is first of all necessary to accelerate the growth rate of labor productivity; this is the cardinal national economic problem. A great deal in its solution depends on the organization of payment for labor and the planning of wages.

Here, in our opinion, the decisive factor is the introduction of standardized planning based on fixed wage standards per ruble of production. The advantage of fixed standards is that an enterprise receives the wage fund only to the extent of the achieved production volume and labor productivity growth even when it is necessary to adjust the plan. The dependence of the wages of each worker and work collective in general on the increase in labor productivity and improvement of the final work results of the production associations and enterprises is also being strengthened.



Unfortunately, the area of application of standardized planning is still inadequate, and the method for forming a wage fund based on fixed standards needs improvement as the experience, which has been already acquired, grows.

#### The Selection of a Base for the Fixed Standard

Methodological instructions permit a wage fund to be established not only for net production (normative) but also for the other indicators being used for planning labor productivity. This does not exclude the opportunity to use indicators that more accurately reflect changes in wages in the individual branches -- for example, a fixed wage standard for a unit of production in in-kind terms.

The establishment of a planned wage fund for the amount of standardized net production has fundamental importance as the basis for insuring the necessary connection between the workers' contribution to production and their wages. The fixed standard of net production must, of course, reflect the average social production conditions. This defines the payment not for any expenditure of work but only for that socially necessary.

The work, which is expended in an enterprise for processing materials and which is limited to the socially necessary amount of these expenditures, is embodied in the standardized net production; and that is why this must be the basic indicator in paying for labor. When a wage fund is established using other indicators that do not reflect to the necessary degree changes in expenditures of labor, there is inevitably an entirely unwarranted effect by such factors as the quality and quantity of labor resources used, purchased materials, semi-finished products, and the services of cooperating enterprises -- that is, the work results of other collectives -- on the size of the fund.

A fixed wage standard per ruble of net production (normative) should determine the correlation between the necessary and surplus product, emerging as the most important factor in distributing the social product. This correlation also depends on the achieved level of labor productivity, the targets in increasing the workers' standard of living and the social requirement of the period being examined.

#### What Does the Fixed Standard Include?

In accordance with the methodological instructions in effect, not all of the monetary resources, which are directed toward paying for labor, are being considered in the fixed standard. Thus, payments from profits, which are included in the material incentive fund and which can be in an enterprise 10 or more percent of a wage fund formed based on the fixed standard, are not included in it. The fixed standards for computing a single fund to pay for labor, which combines the wage and material incentive fund, are already being introduced, for example, in agriculture.

The fixed wage standard in industrial enterprises only considers the expenditure of work by industrial production personnel. The wage fund of non-staff

personnel, for example, is not included in the fixed standard. However, the activity of workers, whose work is paid for from this fund, directly or indirectly assures the progress of the production process. Payments for expertise, consultations and scientific, technical and other work, for example, take place from the non-staff wage fund. Just as all the others, these categories of workers receive bonuses and awards from the general material incentive fund.

Moreover, increases for product quality, which are considered in the account and which accordingly increase the actual payments of bonuses to enterprise workers, are not being provided for in the plan.

In our opinion, the fixed wage standard should consider all of the resources that are directed toward paying for the labor of workers in accordance with the output of that product. The practical use of this recommendation will contribute to insuring a balance in the level of the production volume plan and wages. However, the decisive factor is the maintenance of this balance during the actual use of the wage fund. It is natural that the sum of this fund must correspond to the actual results of the production collective's activity. In our opinion, actual net production, that is, production in wholesale prices minus actual material expenditures, is the cost indicator with the greatest degree of reliability in reflecting these results. In this case, it is possible to consider savings or over-expenditures in material resources when paying for labor. This approach completely corresponds to the general principle of planning: A plan is compiled on the basis of advanced norms and fixed standards, but the results achieved are determined based on actual results.

#### Considering the Actual State of Affairs

Standardized net production also does not consider the current change in prices for the required production resources and the products being produced by the enterprise, that is, the change in the socially required expenditure of labor. An enterprise, however, does not function in isolation from other enterprises and from the entire production system which has an effect on the social value of the collective's work results.

All these items are still not being reflected when determining the wage fund. This leads to alienation from production material values and, in the final analysis, to the population's monetary resources being out of touch with the available goods.

As an example, let us examine the results of the activity of the Moscow Electromechanics Plant imeni Vladimir Il'ich for 1982. The estimated amount of standardized net production was 24,150,000 rubles; the commodity production in current wholesale prices with a deduction for all material expenditures was 20,240,000 rubles.

Despite a decrease by the enterprise in material costs per ruble of commodity production (by 1.5 percent in relation to the plan) and an increase in labor

productivity (by 4.5 percent in relation to the plan), several factors nevertheless had an effect on lowering the actual net production. Among them were increased labor expenditures for the output of new equipment and a change in prices and tariffs (prices for the production of the enterprise itself decreased on the average, but those for the production and services of cooperating enterprises increased). The consideration of these factors permits the enterprise's wage fund to be determined on a sounder basis.

It also seems advisable to calculate net production for the formation of this fund not according to marketable products but according to sold products considering the fulfillment of the delivery plan. This will strengthen the consumer's influence on the quality and amount of the items being produced, stimulate a decrease in their stocks in enterprise warehouses, and render completely useless the production of items without a consignee and of goods for a warehouse which are not meant for a specific consumer and which have not been made official by delivery contracts.

The proposed changes will not complicate the work of the appropriate enterprise services but, on the contrary, will simplify it. You see, the indicators, which determine the amount of net production as the difference between sold products and the material expenditures for their production, are being calculated when summing up the results of the enterprise's quarterly and annual activity.

When adjusting a plan and lowering production volumes, the wage fund will also be decreased because the base for determining it is the actual volume of net production and a stable fixed wage standard. Payment for labor in accordance with the actually obtained net production will permit situations, in which the output of products decreases but wages remain as before, to be eliminated.

The actual value of the volume of net production can be calculated only upon the completion of the planned period. Therefore, all the results of recalculating the wage fund when there is an overfulfillment (underfulfillment) of the planned amounts must, evidently, be taken into account by means of an appropriate increase (decrease) in the wage fund for the next planning period. In our opinion, the recalculation must take place strictly in accordance with the established fixed wage standard per ruble of standardized net production without applying any additional recalculation coefficients whose system is now extremely complicated.

Improving the standardized method for planning wages will strengthen its stimulating role. This is being achieved not by increasing the wage fund in general but by increasing the worker's wage in strict accordance with his work contribution.

## LABOR

### SUBSTANTIAL STUDY ON URGENT LABOR PROBLEMS

Moscow EKONOMICHESKIYE NAUKI in Russian No 5, May 83 pp 104-105

[Review by M. Bor, doctor of economic sciences, and A. Golovin of book "Trudovyye resursy i effektivnost' proizvodstva" /Labor Resources and Production Effectiveness/ by T. V. Ryabushkin and A. Z. Dadashev. Edited by M. S. Zubkova, Moscow Znaniye, 1981, 128 pages/]

[Text/ The tasks of intensifying and increasing the effectiveness of social production require a deepening of the studies in the field of optimizing the processes of the formation, placement, and utilization of the aggregate manpower of the socialist society. Under the conditions of the 1980's these processes have become substantially more complex, inasmuch as with the further unfolding of the scientific and technical revolution ever-increasing demands are being made on the structure and the quality of manpower, whereas the unfavorable tendencies of the natural and mechanical movement of the population complicate to an extreme degree the formation and effective utilization of the labor potential in a number of regions.

The book under review provides a circumstantial analysis of the profound structural changes in the quantitative and qualitative characteristics of the USSR's labor resources; particular attention is paid to the growth of intellectual potential and the rise in the educational level of workers (see pp 8--10). Shown here are the regional characteristics of the demographic base of the formation of labor resources; this comprises the necessary base for conducting a differentiated approach to solving the problems of providing the national economy with the necessary manpower (see pp 15--16).

The authors have raised the extremely urgent question of strengthening the balance in the development of the economy with respect to labor resources. In analyzing the activities of a number of industrial ministries and enterprises, T. V. Ryabushkin and A. Z. Dadashev point out that, in order to attain such a balance, we need to have better groundwork for the distribution of capital investments among new construction, the expansion, renovation, and retooling of existing production facilities. Moreover, the justifiable opinion is stated that for regions in which the labor resources act in the capacity of a limiting factor on economic growth the main trend of industrial development should consist of renovation and retooling. Of substantial interest in this connection is the development and implementation of an integrated, comprehensive program for increasing labor



effectiveness and the economical utilization of manpower in Moscow (based on the example of 20 industrial enterprises which were studied; see pp 24--25).

As noted in this book, "at the present-day stage of economic development the discovery of intra-production manpower reserves and seeking out ways to utilize them have become a task of top-priority importance" (p 48). The work examines the appropriate reserve-forming factors, the organizational and socio-economic conditions of labor economies, and the development of the brigade form of organizing labor.

Considerable reserves for displacing workers are connected with the mechanization of auxiliary operations, particularly those in the fields of transportation, loading, and unloading. T. V. Babushkin and A. Z. Dadashev convincingly reveal the unfavorable nature of the situation which has taken shape in solving this problem in connection with the lag in hoisting-transport machine building, the lack of equipment in this industrial sector for manufacturing items required for such mechanization, as well as the absence of an integrated plan for the production of such equipment. The work correctly notes that there are also reserves for increasing labor effectiveness in improving activities in the public-service sphere (trade, public transport, everyday services, etc.; see pp 62--63).

In examining the questions connected with the organizational and socio-economic factors of labor economies, the authors have also studied those aspects which have hardly ever been raised before in the literature. Thus, they are fully justified in posing the question of economic measures which would provide economic managers with incentives to really tackle the question of increasing the effectiveness of outlays to improve working conditions and labor protection. This would be facilitated by the practice of paying out assistance for the temporary inability to work for above-plan losses of working time because of absences due to illness not out of the social-insurance funds but rather out of the wage funds. Reducing the absences of workers and office employees depends, to a certain extent, on reducing the rate of children's illnesses.

Frequently one of the causes of children's illnesses (especially colds) is, as the book notes, insufficient care of children in nurseries and kindergartens. In the authors' opinion, the most effective form here could become the provision of incentives for those workers at children's pre-school institutions who manage to attain a reduction of the illness rate in their own groups. In many departmental kindergartens and nurseries such a wage system is already in practice and has given a good account of itself (see pp 68--69).

The book justifiably criticizes the existing practice of diverting workers and office employees without good grounds into projects which are unconnected with the principal production activity. The authors correctly propose setting up "city--village" sponsorship ties on a contractual basis with the inclusion of reciprocal obligations by the parties concerned with regard to the volume and nature of the work, the working conditions, and their wages; they also propose that the very nature of sponsorship aid be altered, bringing it more into line with the appropriate profile of the enterprises involved (see p 75).



In our view, the authors are completely correct in criticizing the lack in present-day statistical practice of an accounting of the absolute (and not merely relative) number of workers being displaced. Moreover, the introduction of such an accounting is necessary for organizing the redistribution of personnel (see p 57).

While evaluating the book under review favorably on the whole, we consider it necessary to dwell on certain of its shortcomings and disputable questions. Thus, it lacks a definition of the economic category of "labor resources"; it is even unclear how the latter differs from the category of "manpower." In using these concepts, the authors have obviously not accorded any particular significance to the differences between them, which, in our opinion, are not only of theoretical but also of great practical importance. The category of "labor resources" characterizes the potential opportunities for implementing labor processes connected with the absolute magnitude and relative proportion of the able-bodied population. Whereas the category of "manpower" characterizes the scope and structure of the personnel element of the production forces. In connection with this, under the conditions of a socialist society a balance with regard to labor resources does not yet signify a balance with regard to manpower. On p 8 the authors write that the qualitative characteristic of labor resources consists in the level of the general-educational, occupational, and economic training. It is our conviction that the characteristics enumerated above cannot fully define the quality of labor resources. This quality also depends substantially on an active outlook on life and a creative attitude toward labor.

T. V. Ryabushkin and A. Z. Dadashev have set forth an interesting, but far from indisputable, system of indicators of the effectiveness of using labor resources (see p 38). In addition to the indicator of the productivity of social labor, they propose to introduce indicators of the effectiveness of the distribution of labor resources ( $E_r = D:Ch_r$ ) and of the effectiveness of utilizing labor resources ( $E_{tr} = D:Ch_{tr}$ ). Here  $D$  represents the national income,  $Ch_r$  represents the amount of labor resources, and  $Ch_{tr}$  represents the number of workers in the national economy (see p 38). In our view, the places in the system being recommended which are vulnerable to criticism consist in the fact that the proportions of the distribution of labor resources between the employed and the unemployed within the national economy and the distribution of the employed among the productive and non-productive spheres cannot be evaluated by the production indicators of the national income. These are social proportions, which, consequently, require social indicators likewise for their measurement and evaluation. Indeed, what kind of information can be provided by the knowledge that the growth rate of the national income, as calculated for the entire amount of labor resources, as well as for the number of those employed in the national economy, during the years 1961--1979 amounted to 139 percent, while the growth rate for the productivity of social labor was 147 percent (see Table 8, p 40)? The utilization of such indicators, while very effective externally, could serve as the basis for abandoning the search for social indicators. Furthermore, the following question arises: if the authors introduce indicators of the effectiveness of the distribution and utilization of labor resources, why do they not propose an indicator of the effectiveness of their formation?

Also disputable, in our view, is the book's recommendation for a new indicator of the "effectiveness of labor in industry" (see pp 44--46), to be computed as the ratio of net output to the total of the wage fund and the contributions to social insurance. In the authors' opinion, this "would show the effectiveness of utilizing labor resources, taking into account improvement in the quality of manpower" (p 44). It seems to us that there are no grounds for such an assertion. And, of course, the calculation in Table 10 (see p 45) testifies to the fact that the indicator of "labor effectiveness" has remained practically unchanged (during the period 1965--1975 it rose by 1.6 percent), whereas labor productivity during this same period rose by 94 percent. So how can the following question be answered here: is labor in industry becoming more effective or not? If we are to believe the authors, there can be no talk about such a growth. But such a conclusion is conditioned only by the fact that as an indicator of the dynamic growth of labor effectiveness they propose an indicator of the dynamic growth of the portion of the wage fund and the social-insurance fund within the net industrial output. Furthermore, the dynamic growth of this portion can testify, and quite closely indeed, to the changes in the portion of the "necessary product" or the portion of the "product by itself" (which are very stable), but not at all to the changes in the quality of manpower under socialism.

This monograph has correctly emphasized the position that the economic mechanism of administration consists of the following four interrelated and mutually complementary parts: planning economic and social development; organizational forms of administration; systems of methods to provide incentives; and organizational forms and methods for drawing working people into administration (see p 95). The economic mechanism for the administration of labor obviously includes these four elements. We cannot understand, therefore, why the authors have introduced the concept of the "economic mechanism for labor" (p 97). If the concepts which we are discussing are identical, then why introduce a new term? If not, then wherein lies the difference between them? Perhaps it is necessary to speak about the economic mechanism for the administration of labor, but can there be yet another particular "economic mechanism for increasing the effectiveness of utilizing labor resources" (p 96)? It seems to us that there are no serious grounds either for introducing a new term or for isolating out a particular mechanism of "increasing effectiveness."

In our view, this book could only gain if, in examining the range of problems connected with the organizational and socio-economic factors of labor economies, the authors had dwelt in more detail on the activities of municipal offices for job placement and public information. In particular, constant attention should be paid to improving the efficiency of the links between these offices and the personnel departments of enterprises and institutions, as well as the local administrative organs. In examining the problems of personnel turnover, we must assume that the authors have not taken full enough advantage of the opportunity to dwell upon a factor which has been unjustifiably passed over in silence in the literature--the form of creating stable labor groups by concluding term-type labor agreements.

The book under review, which raises a number of important problems with regard to increasing the effectiveness of utilizing labor resources, will undoubtedly be useful both to specialists as well as for a wide range of readers interested in the questions of improving labor administration.

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## POLITICAL-ECONOMIC ANALYSIS OF LABOR-RESOURCE MIGRATION

Moscow EKONOMICHESKIYE NAUKI in Russian No 5, May 83 pp 108-109

[Review by Professor M. Pliner, doctor of economic sciences; Docent Ye. Kondrakova, candidate of economic sciences (Leningrad); Docent G. Pyatakov, candidate of economic sciences (Vilnius) of book "Migratsiya trudovykh resursov v SSSR (politiko-ekonomicheskiy aspekt)" [Migration of Labor Resources in the USSR (The Politico-Economic Aspect)], by G. S. Vechkanov. Edited by V. N. Nennonova, Leningrad, Izdatel'stvo Leningradskogo universiteta, 1981, 144 pages.]

[Text] The conversion to a predominantly intensive type of production persistently demands the attainment of a quantitative and qualitative balance between jobs and labor resources. An important role in solving this problem is played by the able-bodied portion of the population in migration. A multi-faceted study of the migrational processes and the development of methods for the planned control of the migration of labor resources constitute an urgent problem for theoretical investigation. And it is precisely to these problems that the monograph under review is devoted. It investigates for the first time on such a broad basis the politico-economic contents of migration, its interconnection with the reproduction of labor resources, and with the operation of individual laws of economics. This has also brought about the uniqueness of the method used to analyze migration, the essence of which, as noted in the book, "consists in the fact that the investigation of resettlements is conducted in close interconnection with the direct process of production" (p 4).

The author conducts his study of migrational processes in the following two aspects: from the point of view of the influence of labor resources on the development of production relations, on social production as a whole, and from the point of view of the influence of socialistic production relations and the economic laws of socialism on the migrational movements of labor resources.

G. S. Vechkanov considers migration as a factor of the redistribution of labor resources among sectors, regions, and enterprises. Of definite interest is the attempt undertaken by the author to work out a method for computing the effectiveness of labor-resource migration, along with its quantitative and qualitative definition. As a quantitative definition of the economic effectiveness of migration, he understands "the ratio of the result obtained as a result of resettlements to the outlays connected with the shift and the retention of workers" (p 29). He proposes to express the qualitative evaluation through the implementation of the basic economic and social functions of migration.



Analyzing the factors of migration, G. S. Vechkanov sees in them a dialectical combination of objective and subjective conditions the interaction of which brings about the inevitability and feasibility of resettlements (see p 33). An increasing role, as emphasized in the book, is played by the system of social factors influencing migration. And the author considers the following to be the principal economic factors: the well-planned distribution of productive forces, extensive and intensive types of reproducing the latter, and specific differences in the levels of economic development in certain regions of the country.

This work devotes a great deal of attention to the analysis of contemporary trends of the migrational processes in the USSR. The author notes a reduction in the scope of resettlements and, above all, a reduction in the amounts of migration from rural localities to the cities, and even a certain increase from the cities to the rural areas (see p 48). The change in the migrational processes is, G. S. Vechkanov emphasizes, a unique reflection of the party's agrarian policy, directed at increasing the effectiveness of agricultural production, improving working and living conditions in the rural localities, and transforming the appearance of the contemporary village by means of creating well-laid-out settlements with a sufficiently high level of development of the social infrastructure.

The author carries out his analysis of the migrational trends as follows: a) by the types of settlements (city--city, city--village, village--city); b) by Union republics, economic regions, between the European and Asiatic parts of the USSR (inter-regional migration). In speaking about the process of evening out the living and working conditions in various urban-type settlements, G. S. Vechkanov concludes that this "has undoubtedly influenced the inter-urban shifts in the direction of slowing them down" (p 49). Further along, however, the author himself casts doubt on this conclusion when he asserts that inter-urban resettlements (from large cities to small ones) are becoming more active (see p 52), and the "scope of labor-resource movement in the USSR continues to grow" (p 120).

The author is correct in drawing attention to the fact that inter-rayon migrational processes are exacerbating the problem of labor resources in the rural localities of the Non-Chernozem Zone of the RSFSR.

The regional characteristics of migrational processes are traced in this book, using the example of the KASSR. Analysis of migration based on the materials of this republic has allowed G. S. Vechkanov to discover certain characteristics of the process, as well as the fact that migration in Kazakhstan has not met the needs for the expanded reproduction of labor resources, nor does it fully reflect the interests of this republic's economic and social development.

An important place in the work is devoted to an analysis of the following little-studied problem: the connection between the operation of economic laws and the migrational processes. The central problem here is considered by the author to be the problem of the well-planned utilization of the entire system of the economic laws of socialism in controlling the migrational processes and optimizing them. Further along it is noted that the elimination of negative phenomena in migrational processes requires, above all, intensifying the effectiveness of economic levers and incentives in the distribution and redistribution of the

country's able-bodied population. A necessary condition for the rationalization of labor-resource migration, consequently, is the more effective utilization of the economic laws influencing it. In our view, the author correctly emphasizes the special importance of the law of well-planned development in controlling the migrational processes. Indeed, the optimum distribution of the accumulation fund and the consumption fund throughout the country's regions, improvement in the territorial division of labor, the top-priority implementation of the comprehensive mechanization and automation of production in regions which have a labor shortage, the comprehensive development of the economies of the Union republics and regions of the country, the rational formation of production-territorial complexes, and other measures of a similar type allow us to ensure the optimum coordination between the number and the structure of already-existing and newly created jobs with the number and occupational-skills structure of the labor resources, and to more successfully control the process of population migration.

Also of interest is the author's viewpoint on the role of public consumption funds in the control of resettlements. In contrast to those economists who reject the possibility of a broad-based utilization of these funds in order to optimize migrational processes, G. S. Vechkanov considers such a utilization to be an important lever for improving the processes under consideration. He writes as follows: "While creating the necessary advantages in monetary incomes and commodity stocks, we must, at the same time, create advantages in housing and free services for those persons living in extreme conditions or in regions which are poorly developed economically. This would allow us not only to attract and retain settlers but would also tend to prevent an outflow of the local population" (p 135). Thus, what we are talking about is that the public consumption funds could be used more widely to implement the party's migrational policy.

In examining the elements and forms of manifestation of the law of labor transfer and its influence on the migration of labor resources, G. S. Vechkanov considers that the given influence is contradictory. In one case labor transfer may emerge as a consequence of the migration of working people, while in another case the migration of workers is a consequence of labor transfer. Deriving from the law of labor transfer the displacement of manpower, the author analyzes the interaction between the de facto and provisional displacement of workers and their migration. In connection with this, other phenomena are also examined, for example, such as the appearance of new occupations and their combinations. These phenomena bring about both an increase and a decrease in the needs for workers, and this, too, often leads to migration. In order to optimize the given processes, as the author justifiably notes, we need a comprehensive, well-formed system for controlling the training, job displacement, retraining, and redistribution of labor resources.

The work under review encompasses a broad range of migrational problems and their connection with the economy. Many of them are posed here for the first time and are suitable for discussion; they require further development. There are also proposals which have been insufficiently supported by arguments.

Thus, in our view, the definition of the essence of and the distinction between the categories of "manpower" and "labor resources" (see p 7) are hardly convincing.

It seems to us that the definition of the essence of migration provided by the author and cited above is too broad and does not precisely single out the phenomenon under examination. We cannot agree with the author's proposal "to radically solve the question of the attainment by school graduates of the necessary vocational training" (p 15). Experience has shown that the general-education school cannot provide the training for sufficiently skilled personnel for all the basic fields of specialization. It seems to us that there could be discussion only about pre-professional training, about strengthening vocational guidance, i.e., about how the school should render more effective assistance in the choice of an occupation. In our opinion, this work would have gained significantly if the analysis of various points of view given by the author in his monograph had been more complete and the evaluation more precise (see pp 7, 69, 97, etc.).

The most substantial shortcoming of the monograph under review, in our opinion, is the absence of a detailed and profound analysis of the interaction between migration and the basic economic law of socialism. We consider that it is precisely the basic economic law of socialism which exerts a determining influence on the migrational processes. Among other remarks of an incidental nature, let us point out that the quantitative characteristics of the resettlement process, as provided by the author regarding migration, do not pertain to labor resources but rather to the entire population. This, however, is not an omission of the author; the fact of the matter is that, unfortunately, the statistical organs do not publish data on the migration of labor resources (according to certain sources, within the migration of the population the portion of its able-bodied members amounts to 72.4 percent).

But on the whole, despite certain shortcomings, the monograph under review is a comprehensive study of the pressing politico-economic problems of labor-resource migration at the present-day stage. It is needed by everybody who is studying this problem, i.e., not only economists but also sociologists, demographers, and other specialists.

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CONTROLLING MOVEMENT OF MANPOWER

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[Review by Professor B. Breyev, doctor of economic sciences, of book "Dvizheniye rabochey sily v krupnom gorode. Problemy regulirovaniya" [Manpower Movement in a Large City: Problems of Regulation]. Edited by Professor A. E. Kotlyar, Moscow, Finansy i statistika, 1982, 214 pages]

[Text] Improving the processes of manpower movement constitutes a major reserve for increasing the economic effectiveness of social production at the present-day stage of our country's economic development. Under the present-day conditions the scope and directions of labor shifts frequently do not correspond to social interests, and they lead to great national-economic losses the elimination of which provides great national-economic effects. The achievement of this should also be facilitated by economic science, and this task has been carried out to a certain extent in the collective monograph under review.\* Its special place among works in which mention is made of the movement of manpower among individual enterprises, sectors, and economic regions, is determined primarily by the fact that here all the evaluations are made proceeding from the /city level/ [in italics]. The latter is considered as an independent, integrated system, constituting the expression of the highest level of social interests in comparison with an individual enterprise. Such an approach has great methodological importance, inasmuch as it opens up possibilities for discovering additional reserves for increasing the effectiveness of the distribution and utilization of labor resources.

This book contains new posings of the problems and new scientific conclusions; it makes a definite contribution to the comprehensive study of the questions of the movement of labor resources. Of undoubted interest, in particular, is the development of a classification of the forms of manpower movement. The authors have set forth the concept according to which the great diversity of manpower movement is boiled down to the following four forms: social movement, territorial movement, movement connected with labor activity, and natural movement (see pp 8--20). This monograph makes successful use of the concepts of "labor shifts" and "labor flow,"

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\* Its authors are as follows: Professor A. E. Kotlyar, doctor of economic sciences; I. N. Kirpa, candidate of economic sciences; M. I. Talalay, candidate of economic sciences; V. V. Trutin, candidate of economic sciences; Z. A. Khotkina, candidate of economic sciences; V. D. Zinchenko; and E. A. Kotlyar, candidate of economic sciences.



which allows the authors to take into account the specifics of labor shifts at the city level. By labor shifts the authors understand the individual acts of the primary distribution and redistribution of manpower. "The aggregate of individual labor shifts, united by a communality of direction and defined by the points of 'departure' and 'arrival,' is the labor flow" (p 21).

In selecting an object for study the authors leaned toward cities with a population of 250,000--500,000 people, which, according to the classification used in the guidebooks developed by USSR Gosstroy for planning cities are called large. The choice of a specific city for conducting the study was determined by an analysis of a number of the most important socio-economic and demographic indicators on all the large cities of the Russian Federation. The authors acquaint their readers with the methodology worked out by them for determining the principal object of their study (see p 30), which ensured the selection of the most typical large city of the RSFSR; this turned out to be the city of Orel. They also utilized the principal results of a selective study conducted in 1980 of labor shifts in 19 cities of the republic having populations of 100,000--500,000. The instrumentalities utilized in this book allowed the study to acquire a comprehensive picture of labor shifts on the basis of statistical-economic and sociological information.

The authors of the work under review circumstantially analyze the factors exerting an influence on the intensity of hiring workers by industrial enterprises (see p 36); the results of this analysis, in our opinion, represent an extremely essential interest. The book examines in detail the directions of labor flows: on the level of areas of employment, on the level of sectors of public farms and industry, as well as in a cross-section of the city's individual industrial enterprises.

Of particular importance is the fact that the readers' attention is drawn not only to a characterization of the trends which are taking shape in the movement of manpower, in its distribution and redistribution at various levels, but also to a circumstantial analysis of the factors determining this movement. Revealed here are the causes of the trends of the participants in labor shifts from different spheres of employment in moving toward specific groups of sectors in the public economy and industry (see pp 38--40); also shown are the factors of inter- and intra-sectorial personnel turnover (see pp 47--50). Analysis of the existing ratios is used for predicting their changes in the future, as well as for making practical suggestions with regard to regulating labor shifts. The comprehensive approach to the study of labor shifts within the framework of a single area of labor application has allowed the authors to draw a conclusion which is extremely important in both a scientific and an applied sense, namely that the control of manpower movement, in particular, influencing the direction of labor shifts, is impossible without taking into account the socio-economic characteristics of the workers themselves as well as those of all places where the labor is applied (sectors, associations, enterprises, and institutions), between which the exchange of manpower occurs.

I would also like to draw the attention of the readers of this book to the approach followed in it to evaluating the degree of rationality in the change of occupations by workers, depending on the influence of this process on the occupational structure of personnel within a city: such a change also facilitates the interests of

the public economy of the city (by means of drawing the occupational make-up of the workers closer to the requirements of the structure of the workplaces), or it does not (see pp 78--80).

By applying the principles which were utilized in studying the labor flows, the authors have succeeded in demonstrating the influence of the primary and secondary distribution of manpower on the changes in the social structure of the population and in revealing the characteristics of the effect of these processes on its formation.

Under the conditions of the tight balance of labor resources, especially in large cities, considerable scientific interest is presented by the analysis of the external migration of the population (based on the example of the city of Orel), which accounts for approximately one-fifth of all labor shifts (see pp 105--116). The work provides a detailed characterization of the composition of the city's labor flows and an evaluation of the traits of the migrants' labor shifts, depending on the demographic criterion, the place of departure, and the previous sphere of activity, as well as the criterion for the choice of a place of employment. Based on this, the authors have succeeded in determining the level of rationality of the migrants' labor shifts both from the viewpoint of the interests of the public economy as well as from the viewpoint of the interests of the working people participating in the migration. The authors justifiably approach the evaluation of the rationality of labor shifts as they would any extremely complex, comprehensive socio-economic problem, reflecting the interrelationship of the system of interests: those of the citizens participating in the labor flows; those of the economic organs; and those of the society as a whole. And the evaluation of the interests of each group has also been carried out in an appropriate manner.

An attempt has been made in this work to evaluate the rationality of manpower movement among the sectors of the public economy as well as among individual enterprises from the viewpoint of the influence of these processes on the make-up of personnel. It is also important that the authors have striven to provide an evaluation of the rationality and the total volume of labor shifts in the city, taking into account all groups of interests encountered as a result of manpower movement.

The book has successfully revealed the socio-economic traits of each of the sex and age groups (youth, middle-aged persons and those of retirement age, men and women) which participate in the labor shifts. This study has confirmed the fact that their maximum intensity is inherent in the youth group. Taking this circumstance into consideration, particular attention has been paid to this group of labor resources. In revealing the basic characteristics of the labor shifts of youth, the authors have isolated out the following two practically complete "youth" labor flows: from the field of education and from the Armed Forces. Meriting attention here is the analysis of the specific factors of labor shifts among youth. The authors propose a number of practical measures directed at controlling the labor movement of youth in a large city (see pp 136--162).

This work also presents proposals directed at attracting on a broader basis persons of retirement age into the sphere of public work as a supplementary source of providing the city's economy with manpower.

One of the central places in the book has been justifiably devoted to an analysis of the modern-day system of organizing labor shifts in the national economy. It should be noted that such a precise description of this system, including within it elements such as methods of control, has been lacking up to the present time. The authors provide a well-developed characterization of the organizational forms of manpower distribution in use at the present time; they single out their general and specific traits, ensuring the solution of specific problems in the field of controlling labor shifts.

Special attention is accorded in this monograph to the activities of municipal offices of job placement for the population. Shown here is the place of the job-placement service within the system of organizing manpower distribution. The conclusion is drawn regarding the necessity for regularizing the organizational-economic foundations of a labor middleman-type operation, and a complex of practical proposals has been worked out regarding the improvement of the job-placement service (see pp 200--211). We cannot help but agree with the recommendations in the field of providing information, finance, and material-technical services for this purpose, and with the proposals pertaining to the planning and provision of material incentives for a labor middleman-type of operation. In our view, implementation of these proposals would allow us to ensure expansion of the scope of a well-organized job-placement service and, on this basis, to raise the level of good organization of the processes of manpower distribution and redistribution.

A number of proposals set forth in the work under review, in our opinion, give cause for doubt. Thus, the authors strongly advocate reducing the time period of the transition from one job to another. In their opinion, this is an extremely important reserve for conserving manpower. But is this really the case? You know, frequently in making the transition from one job to another persons utilize their own regular leave-time. It would seem to be necessary to take this circumstance into account; it obviously changes the picture somewhat.

Posing the question of occupational shortages in the city is very valuable, but the method for determining them has not been set forth particularly clearly (see p 71). The set of occupational shortages cited in this work, as this appears obvious from other sources, is diverse in the nature of its formation (in some cases this is caused by an insufficient number of persons trained for the given occupation, while in other cases it is a matter of a large turnover). It would seem that, having revealed the causes of the formation of occupational shortages, the authors could have drawn additional conclusions concerning ways to overcome such shortages.

Individual shortcomings of this work, in our opinion, are also caused by the fact that all persons under the age of 30 have been relegated to the "youth" group. However, this group is extremely heterogeneous: included here are persons who have just begun their working career, those who already have a considerable period of service, young fellows and girls who are just embarking upon life, and the parents of young children. In other words, persons whose interests are extremely diverse have been allocated to a single group.

We must also include among the work's shortcomings the lack of coordination between the arrangement of the units in the diagram entitled "Social Mobility of Workers

within the System of Socio-Economic Processes in the City" (see p 85) and the subsequent examination of the given processes in the text (see pp 84--86).

Like many other investigators, the authors have omitted the circumstance that the processes of personnel movement and people's choices of a job are carried out, in the final analysis, within the limits of the functioning system of job opportunities. It is true, of course, that a person is free to choose his own place of employment, but it is also undoubtedly true that this choice is made within the framework which is determined by the plan for the development of the national economy. In studying these questions it would obviously be feasible to break down the enterprises into groups which are increasing or decreasing the number of employees and, for each of these groups, to examine the problem of personnel turnover. In that case, the authors' conclusions would be more specific.

In evaluating this work as a whole, it must be acknowledged that this is an original study, of interest to a wide scientific community and to all those who are studying the problems of labor resources.

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## EDUCATION

### FINANCING OF GENERAL, VOCATIONAL EDUCATION DISCUSSED

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[Article by K. I. Subbotina, senior scientific associate of the NIFI [Scientific-Research Financial Institute], and candidate of economic sciences: "Improve the Financing of Public Education"]

[Text] At the present-day stage of developed socialism, under the stepped-up intensification of production, the acceleration of scientific and technical progress, and under the conditions of the immeasurably increased attention being paid to the communist education of youth particular importance is assumed by public education. The 26th party congress specified the tasks for its further development. "The main thing today," it was pointed out at the 26th CPSU Congress, "is to improve the quality of instruction, labor and moral upbringing in school... in fact, to strengthen the tie between instruction and life, to improve the training of schoolchildren for publicly useful work."\* We must improve the quality of teaching as well as strengthening the tie with production in the system of higher and secondary specialized education.

The successful execution of the assigned tasks depends, to a large extent, on improving the system of financing public education, in particular, on activating the influence of finances on the achievement by the institutions of public education of better end-results within the economical utilization of state funds.

The institutions of public education are maintained by means of the budget and funds of economic organs. Investments in this sector have been increasing from year to year. In 1980 outlays for the maintenance of the institutions of public education amounted to 31.3 billion rubles, having increased by 58.1 percent over the previous ten years. Moreover, budgetary funds--the principal source of financing--comprised 25 billion rubles. During the last ten years budgetary allotments have grown by 61 percent; however, their proportion within the sources of financing amounted to 2 percent less than the corresponding rise in the proportion of investments from enterprises and organizations. Furthermore, funds from parents have been drawn upon for the maintenance of wards of children's pre-school and

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\*"Materialy XXVI s"yezda KPSS" [Materials of the 26th CPSU Congress], Moscow, Politizdat, 1981, p 60.

extracurricular institutions, boarding schools, etc. A number of educational institutions have their own incomes from the educational-production activities of the pupils.

The financing primarily by means of the budget is to be explained by the objective characteristics of the socialist system of public education. The state takes upon itself the expenditures for the free education of its population. Kindergartens and schools, vocational-technical schools, VUZ's and tekhnikums are all maintained on budgetary funds. By means of these resources the wages of the employees of educational institutions are paid, the material base necessary for instruction is created, and certain categories of pupils receive stipends, free food, uniforms, and dormitory accommodations.

The growth of the investments of funds from enterprises and organizations in public education is a consequence of the heightened requirements of present-day production on the quality of the labor upbringing and production training of youth, of a broader-based drawing of students into scientific-research work. With the exacerbation of the problem with personnel under the conditions of the speed-up of scientific and technical progress, there has been an increase in the participation of enterprises in the business of public education and, therefore, also of their monetary investments in this sector. It is clear that the expenditure of large-scale financial resources should be effective to the maximum extent.

Up to now the utilization of budgetary allotments by institutions of public education has been evaluated, for the most part, by the degree of assimilation of the plan limits, taking into account the changes in the contingents of pupils and wards, i.e., primarily by means of quantitative indicators. Monitoring controls over the expenditure of funds have been directed primarily at uncovering violations of presently existing laws. Under present-day conditions, in our opinion, we must, in addition to the existing evaluational indicators, adopt as criteria of the effectiveness of the use of funds by public educational institutions the end-results of their work, i.e., the quantity and the quality of specialists, trained for the national economy and working along various lines at enterprises and in institutions, the quality of rearing children, etc. Observance of economical conditions and the effectiveness of outlays may also be determined with the aid of an average monetary expenditure per calculated unit (pupil, student, ward) in each institution. The indicator of the average expenditure per pupil of a general-education school has already been proposed by certain economists, but its functional purpose was something else--the leveling out of expenditures in different administrative-territorial units. Moreover, at present in plan financial calculations for revealing the amount of monetary outlays for institutions the average expenditure per pupil, student, and ward is used as the calculating unit. However, in evaluating the assimilation of funds by individual institutions of public education such an indicator is not utilized.

In our opinion, the planning organs, in selecting the ways to develop various types of public educational institutions or to train personnel, ought to take into account more fully the indicators of the effectiveness of outlays for these purposes as well as the indicators of the end-results of the activities of the institutions. For the time being, such indicators are not being considered sufficiently by the planning organs.

budget outlays on the general education and rearing of children and teenagers in 1980 amounted to a total of 16.3 billion rubles--52.3 percent more than in 1970; moreover, expenditures on pre-school institutions increased by 83 percent. Funds from enterprises and kolkhozes also participate in the maintenance of children's pre-school institutions. However, they have comprised only 4 percent of the overall total of the expenditures. It must be noted that in 1980 the USSR Ministry of Education had jurisdiction over 37.4 percent of all children's pre-school institutions maintained by budgetary means, encompassing 39 percent of the children. A significant majority of them belongs to other ministries and departments. But all pre-school institutions are maintained by means of the budget. At the present time production associations and enterprises are participating more and more actively in the maintenance of children's pre-school institutions; to a considerable extent, this is linked with the broad-based drawing of women into production activities. The enterprises allocate from their economic-incentive funds and super-plan profits additional funds to the budgetary funds, thus aiding in the strengthening of the material base of the institutions and improving the feeding of the children. Certain enterprises are also concerned with recruiting personnel in the future. They are conducting labor instruction for the wards of kindergartens under their sponsorship, thus ensuring an initial vocational orientation. In the opinion, for example, of the secretary of the Kuybyshevskiy Raykom of the CP of Uzbekistan, it is precisely in the kindergartens that we must begin to accclimate the children to working occupations and provide them with their first idea about them. Not only scissors and paste but also genuine working tools and joiner's benches must firmly enter into the world of the children's occupations.\*

Under the new conditions of management within the procedure of self-reimbursement of outlays production associations maintain pre-school institutions completely by means of their own accumulations. For example, the Uralmashzavod Production Association in 1980 utilized its own funds to finance 64 kindergartens, where 8,891 children received training. Four million rubles were expended to maintain these institutions; moreover, 3.2 million of this came from the profits of the association, and 0.8 million rubles came from the funds of the parents. Furthermore, 169,000 rubles was spent from the fund of social and cultural measures and spending on improving the feeding of the children in kindergartens and Pioneer camps. As the transition of the associations to the new conditions of management expands, the number of children's institutions being financed by their own funds will increase.

During recent years there has been a broad-based expansion of extracurricular work with children. Pioneer Houses and Palaces have been created, along with stations of young technicians and naturalists, children's music, art, and sports schools, labor and rest camps, excursion-tourist stations, and sports centers. In order to maintain them, 628 million rubles were allocated from the budget in 1980--2.6 times more than in 1970. A considerable sum (192 million rubles) went for the maintenance of children's music schools and Houses of Artistic Education. In addition to budgetary funds, funds from parents are drawn upon for these purposes. In 1970 their share accounted for 44.4 percent of the overall sum of expenditures,

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\* UCHITEL'SKAYA GAZETA, 1981, 10 November, p 1.

while in 1980 this figure was 34.8 percent. In individual cities of the USSR certain music schools function completely by means of funds from parents; for example, in Orekhovo-Zuyevo, Moscow Oblast in 1980 some 86 children received instruction at an evening music school along with lines. The demand of the population to have their children instructed in music schools, schools of rhythm, dancing, etc. is not being fully met today. It would be feasible to attract more funds from parents in order to organize these schools.

There has been an unprecedented increase in the role played by the general-education school in the multi-faceted development of the individual personality. The level of the occupational training of youth, its activeness in social production depends, to a large extent, on the quality of the school education and training. The country has created a broad-based network of general-education schools--secondary schools, schools offering production-type instruction, schools offering study in greater depth of certain subjects, schools with an extended day, boarding schools, evening (shift-type) schools, correspondence schools for working youth, schools for instructing children with physical and mental handicaps, and sanatorium-forest schools. More and more budgetary funds are being expended on their maintenance, as well as that of the universal-education fund and the fund for the acquisition of textbooks; in 1980 this amounted to 10.2 billion rubles, or 34 percent more than in 1970. The basic types of schools are the primary, the eight-year, and secondary schools; in 1980 some 8 billion rubles were expended on their maintenance. The number of secondary schools has increased; during the decade mentioned above their specific proportion grew from 25.3 percent to 42.4 percent, while the primary schools became fewer in number. There has been a strengthening of the schools' educational-technical base; there has been an increase in the expenditures for the wages of the pedagogical and service personnel, as well as on equipment and supplies, along with an increase in educational and managerial outlays. In connection with this, the average outlay per pupil has risen as follows: in 1980 it was equal to 209 rubles; moreover, for the city schools this figure was 179 rubles, while for the rural schools it was 247 rubles. These differences are explained by the unequal structure--schools with fewer pupils in the rural areas and those with larger numbers of pupils in the cities.

It has already been stated above that, in addition to the budgetary allotments, large-scale funds from enterprises and organizations are also being drawn upon for the maintenance of schools. They have been permitted to transfer to the schools on a non-reimbursable basis equipment and materials, as well as to allocate by means of super-plus accumulation monetary resources for the construction, repair, and equipping of general-education schools. According to reporting data, 97 million rubles were expended for these purposes by means of profits from the national economy of the USSR in 1980. In a practical sense, however, much more has been spent on the general-education schools. For example, in Moscow during the 10th Five-Year Plan alone enterprises earmarked more than 200 million rubles for the construction, repair, renovation, and equipment of schools.

Investigations conducted by us have shown that, for example, the enterprises of Orekhovo-Zuyevo in 1980 allocated 572,400 rubles for these purposes. For a newly constructed school they acquired a computer, fitted out the school with a radio complex, purchased an upright piano, an Ukraina-model film projector, a Yauza-type



tape recorder, a motion-picture camera, educational equipment, etc. In this same year 14 secondary schools of Perm's Motovilikinskiy Rayon received from their sponsoring enterprises material aid in the amount of 330,200 rubles. Enterprises write off the amounts conveyed by them to the schools from their own bookkeeping balances by means of a formal document. Frequently they transfer materials and equipment in a physical form without reflecting their value in the corresponding sections of the bookkeeping accounts. In the centralized bookkeeping accounts of a rayon department of public education these values are established in an account outside of the system without a specific form, often carelessly, and the accountability for them has not been established. And so, their preservation and the correctness of their use are matters for the conscience of the school directors and bookkeepers. We should set up a strict bookkeeping account and accountability for the material values received by the schools from the enterprises; in planning funds, they must be coordinated with budgetary allotments.

Large sums are allocated by enterprises and kolkhozes for the labor education and production-type instruction of schoolchildren. The principal form of production-type instruction for senior-class members has been recognized to be the educational-production combines (UPK's); their number is rapidly growing. In 1980 there were already 2,008 UPK's--8.4 times more than in 1976. Some 1,738,000 persons were enrolled in them (the corresponding growth by a factor of 5.7). UPK's are created and maintained, for the most part, on funds from enterprises. According to our guideline calculations, approximately 600 million rubles has already been spent as of now on the creation of UPK's by enterprises. Furthermore, almost 35 million rubles is spent annually for paying the wages of skilled workers from enterprises which have been drawn into the production-type instruction of senior-class members at UPK's, and 20 million rubles are from the budgetary funds. Significant sums are contributed by enterprises to the organization and maintenance of educational workshops, bays, student production brigades, etc. It is clear that all this must provide the necessary rational-economic effect. However, for the country as a whole, in 1979 there was still an insufficient number of secondary-school graduates working in the national economy in accordance with their fields of specialization acquired by them in their labor training, while in the USSR this figure was only 4.4 percent. During recent years this indicator, as testified to by publications in the press (the USSR Central Statistical Administration conducts only periodic investigations on this topic), has risen noticeably. During the years of the 10th Five-Year Plan more than 120,000 graduates poured into the national economy of Moscow. About 80,000 young fellows and girls who have passed through labor instruction at UPK's and the educational workshops of enterprises, along with certificates of secondary-school education, have also been awarded skill certificates as first- and second-category workers; moreover, every other person receiving a skill certificate at a UPK has gone to work in his chosen occupation. The experience of the Gorkiy people merits all manner of support; here approximately 60 percent of the secondary-school graduates have become part of the sphere of material production. A broad-based support is found for the initiative of the schoolchildren of Kostroma Oblast, who, after receiving their secondary-education certificates, have remained in their native area.

The organs of public education, being guided by the directives of the 26th CPSU Congress to strengthen the tie between instruction and life, to improve the

training of schoolchildren for socially useful work, are accordng serious attention to the problem of combining studies with productive work. Senior-class members are being drawn into the fulfillment of production orders. Student production brigades, which encompass more than 3 million teenagers, perform considerable amounts of work in the fields and farms of kolchozes and sovkhozes. Most indicative in this regard is the experience of the Stavropol'skiy and Krasnodarskiy Krays, the Rostov, Voronezh, and Omsk Oblasts, as well as that of the Ukraine, Belorussia, and Kazakhstan. The number of labor detachments of senior-class members is growing at industrial enterprises and in the service sphere. The so-called textile detachments are being created in Moscow, Ivanovo, and Vladimir Oblasts. According to our guideline calculations, schoolchildren would be able to turn out products every year valued at almost 10 billion rubles. As practical experience has shown, the revenues from productive labor frequently cover fully or in part the expenditures for the production-type instruction of children. Moreover, in the process of labor instruction schoolchildren replace the work of adults, thereby creating supplementary stable labor resources, and under the demographic situation which has taken shape this is of no small importance.

However, there are still shortcomings in the organization of the productive labor of schoolchildren. As was noted by the deputies at the session of the commission on public education and culture of the Council of the Union and the Council of the Nationalities of the USSR Supreme Soviet in February 1982, at many schools the productive labor of pupils in Grades 7--8 is incidental in its nature, and the possibilities of educational workshops for turning out products based on orders from enterprises are not being utilized vigorously enough. The elimination of these shortcomings, by increasing the quality of labor instruction and the vocational orientation of the pupils, will provide the state with no small effect.

Proceeding from this, the criterion for evaluating the effectiveness of state expenditures and the end-results of the activity of the secondary general-education schools, in our opinion, should be considered the job placement of the graduates of the tenth grade, primarily, in the field of material production or the continuation of their education immediately upon graduation from school, preferably in the fields of specialization in accordance with the profile of their labor instruction. Serving as important indicators are the retention of school graduates in work and study, the participation of schoolchildren in creating products and rendering services as the result of the combination of their instruction and productive labor.

The Soviet state expends large and ever-growing funds on the training of working personnel within the system of vocational-technical education. Some 2.7 billion rubles from the USSR state budget were spent for this purpose in 1980; this amounted to 60 percent more than in 1973. During the 10th Five-Year Plan the PTU's [vocational-technical schools] graduated 11.4 million skilled workers--25 percent of the total number of all trained working personnel. Modern-day production requires working personnel with a secondary-school education. In 1980 1,215,000 persons were trained by PTU's; of these, secondary-level PTU's accounted for 47 percent, and technical schools--53 percent. The 26th CPSU Congress has assigned us the task of increasing during the five-year plan the graduation from the system of vocational-technical education of skilled workers with a secondary-school

education by a factor of 1.6. In connection with this, there is a growth in the investments of state funds in the training of working personnel.

As practical experience has shown, there are considerable reserves and shortcomings in the expenditure of funds for the training of personnel within the system of vocational-technical education; the elimination of these shortcomings will allow us to tangibly increase the effectiveness of the state outlays. It is a matter, as it seems to us, of the composition of the outlays and the organization of the financing.

It seems to us feasible to transfer the budgetary financing of the PTU's to the monitoring controls of the base enterprises, as is now being done with the departmental *tekhnikum*s and kindergartens. In the future it obviously makes sense to have a closer tie between instruction and production in order to finance them by funds from enterprises.

An important indicator of the effectiveness of outlays for the training of skilled working personnel, in our view, is the retention of school graduates at enterprises as an end-result of the work of the PTU's. It should be borne in mind that the PTU graduates are obliged to work at the enterprises to which they are sent for a period of two or three years. But in fact, as testified to by the materials of a number of ministries, some of them do not appear at all at their appointed places, while others leave the enterprises during the first or the ensuing years. This is also confirmed by an investigation conducted by the USSR Central Statistical Administration at 169 machine-building plants. Of the youths who had graduated from PTU's three years previously, only 34 percent remained working at their former place of employment, whereas those who had graduated two years ago exhibited a figure of 46 percent in this regard.

The turnover is great among workers at *kolkhozes* and *sovkhozes* who have graduated from SPTU's [*Rural Vocational-Technical Schools*]. According to the data of book-keeping accounts of the USSR Ministry of Agriculture, of the SPTU graduates who arrived on farms in 1976, 39 percent quit in that same year, in 1977 this figure amounted to 42 percent, in 1978--42 percent, and in 1980--37 percent. The substantial funds expended on the training of SPTU graduates have not provided the necessary effect. Furthermore, the state expends considerable additional funds for completing the education and retraining of those who have switched from their place of appointment to other work.

Vocational-technical schools also have their own revenues from the production activities of their pupils. In 1980 these amounted to 409 million rubles, or 15.2 percent of all budgetary outlays. In comparison with 1975, this indicator has gone down by 2.3 percentage points. Analysis of the distribution of such revenues has shown that during the five-year period under consideration there has been a great increase in the deductions made to pay the pupils, the portion of funds remaining in the schools has decreased, and there has also been a decrease in the installment payments made to the budget.

Considerable sums are spent on organizing the training of working personnel at the PTU's of enterprises and organizations. They construct school buildings, outfit

then technically, transfer to them on a non-reimbursable basis equipment, tools, and materials, conduct current and capital repairs, etc. According to our guideline calculations, enterprises invested more than 5 billion rubles in the fixed capital assets of PTU's alone as of 1 January 1961, and approximately 30 billion rubles in non-reimbursable and non-durable objects.

The large outlays of budgetary funds and those of the enterprises should provide an effect most fully manifested in the end-result of training working personnel. In the opinion of a number of workers in the field of vocational-technical education, this is, above all, a matter of the fulfillment by the young workers of the production norms, the mastery of closely allied occupations, the absence of defects, etc. This is undoubtedly important. But, in our opinion, the indicators of the effectiveness of outlays spent on vocational-technical education must also be considered to be the entrance of school graduates into enterprises to which they have been appointed, their retention here, and improvement in their skills.

Improvement in the financing of outlays for public education in order to achieve the best possible end-result of the activities of its institutions within the rational and economical expenditure of funds will allow us to improve the training and education of working personnel.

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## EDUCATION

### ECONOMICS INSTITUTE PROFESSOR DESCRIBES TRAINING TRENDS

Moscow EKONOMICHESKIYE NAUKI in Russian No 7, Jul 83 pp 87-92

[Interview conducted by T. Ter-Izranetskaya with Professor V. V. Shurakov: "Improving the Training of Personnel in Economics"]

[Text] Significant work has been performed in recent years on improving the organization and quality of training for specialists in economics. The list of economics specialists has been revised, the development of new educational plans is being completed, and measures have been taken to strengthen the ties of economics VUZes with production.

At the same time, the level of training of economists and the organization of their distribution and utilization in the national economy do not yet in full measure meet the current requirements stemming from the Communist party's course toward the intensification of social production and the directives of the November (1982) Plenum of the CPSU Central Committee regarding the need for improving the entire sphere of economic management.

In connection with this, the journal editorial staff approached the heads of a number of economics VUZes and faculties and asked them to explain how economics education and the training of economics personnel are being improved in the institutions of higher learning.

Published below are the responses of the rector of the Moscow Order of the Labor Red Banner Economics-Statistical Institute and doctor of economic sciences, Professor V. V. Shurakov.

[Question] Viktor Vladimirovich, Statistics training in the USSR at the present time is being conducted on such a scale which essentially is unknown to any other country. Please explain how this all started and how the training of statistician specialists is being conducted today.

[Answer] In pre-revolutionary Russia, special higher education in statistics was not organized. Although courses in statistics were presented at certain VUZes, these oriented the students only toward general questions of statistical methodology. At the initiative and under the direct leadership of V. I. Lenin, the Position on State Statistics was developed and ratified, in accordance with which the Central Statistical Administration was created. The TsSU was

responsible primarily for the proper formulation of statistics, their development, and the expansion of statistical knowledge. In 1932 the Soviet government adopted the decision to create a network of special institutions of higher and secondary education in statistics, faculties and courses for the preparation of new ranks of statistician specialists as well as for improving the training qualifications of practical workers in the statistical organs (section inspectors). Of particular significance in that same year was the creation of the Moscow Institute of National Economic Accounting, which was renamed in the early 40's as the Moscow Economics-Statistical Institute (MESI). Today it has become the leader in preparing statistician specialists, working out current theoretical problems in statistical science, improving the methodology of teaching statistics, creating textbooks and teaching aids, developing educational programs on the statistical disciplines, and preparing highly trained scientific-pedagogical personnel. Its first director was D. M. Sokolov. The structure of the institute was simple. There was one department of statistics, whose instructors also taught the course in higher mathematics. The department was headed by one of the leading scientists--Professor B. S. Yastremskiy, and the department's scientific colleagues were Professors V. S. Nemchinov (subsequently an active member of the USSR Academy of Sciences), V. V. Stepanov (member of the International Statistical Institute, organizer of the first general census of the population held in Russia in 1897), and others. Naturally, with such a staff the department of statistics was the leading one among all the statistics departments in the country. From the institute's very inception, its leadership took on the task of concentrating together the best qualified personnel. It employed such well known scientists as Professor L. M. Volodarskiy (today the director of the USSR Central Statistical Administration), USSR Academy of Sciences corresponding member T. V. Ryabushkin (today the director of the Institute of Sociological Research of the USSR Academy of Sciences), Professor M. R. Eydel'man (today the director of the Central Statistical Administration's Scientific-Research Institute), and others. The institute carefully retains the memory of the ceremonial graduations held in the pre-war years. Many of the graduates of the institute's initial period of existence later became important leaders in organs of state statistics, and some of them even today still work at MESI (Professor V. Ye. Ovsiyenko, Professor G. S. Kil'dishev and others).

At the present time, the training of statistician specialists with a higher education is conducted at 17 institutions of higher learning throughout the country according to three forms of education--day courses (stationary), evening courses and correspondence courses. All of them prepare multi-skilled specialists with a specialization in one branch of social-economic statistics or another. At the VUZ the future specialists receive extensive education in the sphere of social-economic, mathematical, special statistical and related branches of science as well as certain experience in working in their specialty. The VUZes which turn out specialists in statistics, as well as all the country's institutions of higher learning, are conducting intensive work in improving the professional preparation and ideological and political training of the future specialists and in strengthening the ties with production, thus implementing the decisions of the 26th CPSU Congress and subsequent Central Committee plenums. For this purpose, programs, learning and methodological

aids are constantly being improved and curricula constantly reviewed. The preparation of scientific and scientific-pedagogical personnel in statistics has undergone great development in the USSR through graduate study, which is offered in 16 of the country's institutions of higher learning and in the USSR Central Statistical Administration Scientific-Research Institute. In its half-century of operation, the institute has played an important role in the formulation of higher statistical education, having trained over 25,000 specialists for our country's national economy and for a number of foreign countries. The graduates of this institute work in USSR Gosplan, in USSR Gosstat, in the USSR Central Statistical Administration, in Stroybank, in ministries and departments, as well as at many of the country's leading enterprises. Representatives of almost all the USSR nationalities and numerous (over 30) foreign countries are studying at the MESI. Its graduates work in practically all the countries of the world. In some countries they are the heads of statistical services.

[Question] Viktor Vladimirovich, the institute which you head is called the leading one in training statisticians and specialists in mechanized processing of economic information. What stands behind these words?

[Answer] Behind these words are the most important achievements of the institute, which combine three spheres: statistics, cybernetics, and electronic computers. MESI is truly the base VUZ in statistics and mechanized processing of economic information. At the present time there are six departments at the institute: statistics, mechanized processing of economic information, economic cybernetics, correspondence courses, the department for improving teacher training (statistics and organization of mechanical processing of economic information), and the department for improving the training of engineering-technical workers in the area of programming. Moreover, a department of social professions and a dean of foreign students have been organizationally designated.

I cannot resist the temptation to cite the following figures. While in 1932 there were 191 students in the statistics department, in 1972 there were 1,512, and at the beginning of the 1981/82 school year there were 1,875 students.

In performing the functions of a base VUZ, the institute collective solves problems dealing with the organization and intensification of the educational process, preparation of curricula and programs, textbooks and teaching aids with the widespread involvement of professors and docents from VUZes for related skills, from the scientific community and from practical workers within the system of state statistics. Consultations are held annually with representatives of approximately 70 VUZes on questions of the organization of the educational process, VUZ automated control systems, and application of technical educational means.

The distinguishing peculiarity of the new curricula is that they are oriented toward the fundamental preparation of students and take into consideration the latest achievements in statistical application and experience in using means of information processing. We envision primarily an intensified statistical preparation with consideration of the latest achievements in its theory and

practical application. The specialty of "Organization of mechanized processing of economic information" provides for the training of specialists for work in organs of state statistics and at computer centers in branch ministries and departments.

In connection with the USSR Food Program for the period to 1990, more attention is being given today to the training of personnel in agricultural statistics, as well as in the statistics of branches of the agroindustrial complex. In this study plan the educational process places the basic stress on knowing how to comprehensively analyze data on the movement of basic food products, beginning from the stage of production and ending with the stage of final consumption, as well as on the statistical analysis of the connection between agriculture and other branches of the agroindustrial complex, and on obtaining data on the effectiveness of utilizing land, production capacities, labor, material and financial resources.

One of the most important directions in the work of the institute is to improve the system of statistical indicators on agricultural statistics associated with the intensification of agriculture and with the search for unused reserves. This is particularly important today, when the decisions of the May and November (1982) Plenums of the CPSU Central Committee are being implemented.

The statistical accounting and analysis of losses in agricultural production, methods of statistical study of the rational use of fodder, improvement in the study of the operation of subsidiary farms belonging to enterprises as well as organizations, as well as in the operation of privately owned subsidiary farms belonging to workers, employees and kolkhozniks are taking on great significance.

[Question] Our country is today solving a wide range of important economic problems set forth in the decisions of the 26th party congress and subsequent plenums of the CPSU Central Committee. Please tell us what tasks stand before the institute in connection with this, and primarily in its scientific-research work.

[Answer] One of the most important tasks of the 11th Five-Year Plan is the further development and improvement in the effectiveness of automated control systems for collective use computer centers, the continuation of their unification into a single all-state system for gathering and processing information for accounting, planning and management. The entire system of state statistics in the country is presently working in this direction.

The tasks presented by the 26th CPSU Congress in the sphere of further development of work as applicable to modern requirements of control, planning and analysis of management operations based on the effective application of electronic computer technology have a direct relation to the entire statistical service of the country, including also on the training of statistical personnel. The growth in the volume of statistical information, the need for reducing the times for its development and more in-depth economic analysis condition the need for constantly improving the structure of personnel training by the institute in the sphere of machine data processing. Today approximately



50 percent of the graduates obtain a specialization associated with the mechanized processing of economic information. The graduates work in fields of the national economy on planning and operating systems of machine processing of economic information and automated control systems. Many of them take an active part in creating collective use computer centers. It should be noted that the institute has rather quickly taken a leading place in the country in the preparation of specialists on machine systems of processing economic information. The national economy's need for utilizing the economic-mathematical apparatus and improved technological means for managing enterprises and branches has given rise to the creation of a new specialty--"Economic cybernetics" (the first group of students with this specialty in 1968 had dual specialization: mathematical methods in economic research and computer software, today "Applied Mathematics").

The rector's office, the deans' offices, the departments, the party committee and the social organizations are directing their efforts toward developing the entire complex of questions associated with educational training work, toward improving the level of lectureship, toward preparing textbooks and educational aids, and toward stimulating scientific-research work. Many instructors improve their level of training not only at the VUZes, but also by means of traineeships at scientific-research institutions and at leading enterprises throughout the country.

We know that erudition, creative attitude toward labor, high ideals and pedagogical skill also greatly determine the quality of specialist training. To be an instructor is a calling. MESI traditionally excels in the high level of training of its instructors, who acquaint the students with the entire arsenal of technological means in an interesting and enthusiastic manner.

We are trying to apply comprehensiveness in education--to maximally tie in the study of various disciplines by time, content and purpose. The students need to know what they will be doing in the future, i.e. they need to have an understanding of the content of their profession. In studying the course on electronic computers, the future statistician specialist graduating from MESI has a good understanding of their sphere of application in statistics both in the present and in the future.

A number of scientific schools and directions in the area of statistics, machine processing of economic information, computer software and automated control systems have been created at the institute. In the years of the 10th Five-Year Plan alone the scientists of the institute have completed and introduced into the national economy 67 scientific-research studies. At the present time the institute collective is conducting scientific research on important topics, among which in particular are studies on complex GKNT programs--five topics, on USSR Academy of Sciences programs--three, and on programs of ministries and departments--19 topics. Students take an active part in the scientific-research work.

A scientific-research sector functions within the institute and includes problems and sectorial laboratories, a publication section and two

educational-scientific computer centers equipped with modern means of processing and transmitting information.

[Question] What is being done to strengthen the connection between scientific work and practical application, to attract students to this type of work?

[Answer] Increasing the level of scientific work, its interconnection with the educational process, and the development of student scientific activity have a direct relation on the effectiveness and quality of specialist training. The institute takes an active part in solving the economic problems of a number of major Moscow enterprises (Silk Combine imeni Ya. M. Sverdlova, "Krasnaya Roza" Combine, and some others). I would like to note that in 1981 alone, 17 major drafts completed by the departments and laboratories of MESI were introduced into the national economy. The economic effect from this introduction comprises 1,403,000 rubles.

A number of departments are working fruitfully in this direction: the departments of statistics, machine processing of economic information, computer software and automated control systems.

Some of the students' course and diploma projects represent a part of the plan work on studying and solving economic problems by computer. The laboratory on "Theory of mechanized processing of economic information", for example, is engaged in the development of automated control systems for branches of the national economy. As we have already stated, in the 10th Five-Year Plan the institute has introduced around 70 scientific-research works into the national economy. Research is successfully being conducted on studying the effectiveness of social production in conjunction with collectives of the USSR Central Statistical Administration, a number of production associations and industrial enterprises. Among the specific directions for 1981-1985 are the economic-statistical research of the national economy, sectors, enterprises and associations, and the development of a methodology for and study of the effectiveness of social production. The students of the institute take an active part in this scientific search. They participate in numerous student competitions, conferences, olympics, and they win prizes. Student S. Smirnov, who is today a trainee in the department of industrial statistics and secretary of the Komsomol committee, was three-time laureate of the International Competitions for Student Scientific and Professional Activity which were held in Bratislava.

The institute, in conjunction with the USSR Central Statistical Administration, the USSR All-Union Soviet of Scientific and Technical Societies, and other departments and organizations has repeatedly organized all-union conferences and symposia on statistics, machine processing of economic information, computer software and automated control systems.

The institute's scientific subsections and departments perform a large volume of contract work by orders from enterprises and organizations. The development of scientific research is closely tied with the growth in the level of training

of the scientific-pedagogical personnel. Working in the 26 departments are 440 instructors, with over 80 percent of them holding educational degrees and titles.

In the period from 1975 through 1981, 254 candidates and 28 doctoral dissertations have been defended. A large number of dissertations are defended at the institute's specialized councils by competitors and scientists from other VUZes in this country and from socialist countries.

The institute aids statistical organs, scientific organizations and VUZes of the Nonchernozem, Siberia, and the Far East in the matter of improving the level of training and re-training of specialists in the field of statistics and in the application of modern means of computer technology. In the years of the 10th Five-Year Plan, 830 VUZ instructors have improved their level of training and 2200 economists and engineers have been re-trained in the field of statistics and machine processing of information within the walls of the institute.

The party's course toward the intensification of production and achievement of high end results requires the constant improvement of economics education. Several directions may be outlined in this area: the comprehensive approach to the development and renewal of the content and organization of education methods; the practical mastery of goal-oriented quality control of specialist training based on the professional and social functions which they perform, as well as on society's requirements for the image of the modern specialist. All this cannot be done without connection to practical application. This is why such important significance is given to the introduction of scientific ideas into production. The young people are attracted to our institute by our mathematics olympics, by talks in the schools, at enterprises and computer centers, by open houses and television broadcasts.

[Question] Do you believe that the present system of preparation and increasing the levels of training of economics instructors fully meets the current needs? If not, what possibilities do you see for improving this system?

[Answer] Everyone knows the unprecedented rapidity with which all spheres of modern knowledge are developing, including that of economics. In connection with this, at our institute statisticians and economists receive a fairly good education in computer technology, while mechanizers receive good economics training. I am inclined to predict the merging of the specialties (evidently there are many who would not support me in this view). The knowledge of computer capabilities is just as necessary to the modern economist, statistician, and engineer as is the knowledge of economic theory and methodology. Although we must always remember that even the latest computer cannot replace the work of living thought. In his time, K. Marx called the machine an extension of the human hand. By analogy with this image, we may call the computer an extension of the human brain. In researching and working out a large economic problem, it is always necessary to remember the benefit which computer technology may hold in this regard.

The institute has already turned out many specialists who have been educated under the new program. It stresses heavily the study of mathematical logic and graph theory, mathematical methods in economics, basics of mechanization and programming, etc. Economists have proven very well that not one of the major problems could be solved today without the computer. Moreover, the institute is conducting extensive work on improving the theoretical and methodological skill of instructors. Special seminars and concluding theoretical conferences are presented. Instructors are involved in reviewing monographs and educational texts. A faculty for improving the level of training of VUZ instructors on statistics and mechanized processing of economic information has been created at MESI.

The 80's will see the successive implementation of the party's economic strategy, which is directed toward the steady rise in the public well-being, the creation of better conditions for personal development based on further increase in the effectiveness of social production, increased labor productivity, and the growth of social and labor activity of the Soviet people. The state needs literate, highly trained personnel capable of implementing the grandiose plans of communist construction. MESI is only a small part in the forge of cadres which the country needs.

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## EDUCATION

### PRECISE DETERMINATION OF NATIONAL PROFESSIONAL NEEDS URGED

Moscow VESTNIK VYSSHEY SHKOLY in Russian No 5, May 83 pp 3-7

[Article by Docent D. I. Chuprunov, chief of the Planning and Financial Administration of the USSR Ministry of Higher and Secondary Specialized Education: "Improve Planning for the Training and Distribution of Specialists"]

[Text] The 26th Congress of the CPSU specified the long-range party strategy for the period of the 11th Five-Year Plan and the 1980's as a whole. In all spheres of economic and social progress major and, to a considerable extent, new tasks were assigned. "Targeting on the economy, on the more complete and rational utilization of that which the country has at its disposal," it was emphasized at the 26th Congress of the CPSU, "requires a new approach to the many problems of economic management."

The higher and secondary specialized schools have a particular role to play in solving these extremely important problems. In carrying out the decisions of the 26th Congress of the CPSU, the May and November (1982) Plenums of the CPSU CC, and the decree of the USSR Council of Ministers, entitled "On Improving the Planning of the Training of Specialists and Improving the Utilization of Graduates of Higher and Secondary Specialized Educational Institutions in the National Economy" (1978), their workers have achieved significant successes in providing specialists for all the sectors of the national economy.

During the years of the 9th and 10th Five-Year Plans the higher and secondary specialized educational institutions successfully carried out the plan tasks which they had been assigned; they trained and sent into enterprises, institutions, and organizations approximately 20 million specialists. At the present time the higher and secondary specialized schools are annually graduating more than 2 million persons. With regard to most of the fields of specialization, the needs of the national economy for personnel are being fully satisfied. At the end of 1982 there were 31 million specialists working in the various sectors of the national economy; of these, 13 million have a higher education. For each thousand employees in the national economy there are now 241 specialists, and of these, 101 have a higher education.

There has been considerable expansion during recent years in the training of highly skilled personnel in the regions of Siberia and the Far East. Now in operation here are 105 VUZ's, in which more than 580,000 students are enrolled--almost 20 percent more than in 1970.

In accordance with the decisions of the May (1982) Plenum of the CPSU CC, there has been an increase in the scope of training specialists for the sectors of the agro-industrial complex, above all, in the following fields of specialization: "Animal Husbandry," "Veterinary Science," "Farm Machinery," "Grain Storage and Processing."

There has been an expansion in the cooperation among republics, various ministries and departments of the USSR in training personnel. Specific measures have been carried out in order to further strengthen the specialization of educational institutions and to eliminate unjustified duplication in their work. Since 1982 the VUZ's have initiated the process of distributing their graduates two years prior to their completion of the educational institutions, and this will facilitate improvement in the quality of the training of specialists, establishing their profiles in the interests of production, and retaining them in the places to which they are assigned.

Successes in planning the work of the higher school are indisputable. However, the new tasks which have been set for it in the decisions of the 26th Congress of the CPSU, as well as those of the May and November (1982) Plenums of the CPSU CC, present increased demands on planning the training and distribution of specialists in order to bring the quantitative and qualitative parameters of the higher school's work fully into line with the requirements of the sectors of the national economy and with the level of development of science and technology.

Above all, it is necessary to eliminate all of the still-existing disproportion in personnel training. With regard to certain fields of specialization, the higher schools are not providing the national economy with enough specialists, while for others it is preparing somewhat of an excess in comparison with the needs for them. Unfortunately, we are still not satisfying the demand for specialists which are necessary for the new directions of production, for the sectors determining scientific and technical progress.

Therefore, bringing the scale of training specialists into line with the need for them constitutes the top-priority task of VUZ's and the organs administering them. In order to successfully solve this problem, we must, in the first place, eliminate the errors and mistakes in determining the prospective needs for specialists and, in the second place, we have to overcome the inertia which still exists in a number of higher-school employees in the training of specialists.

The prospective needs for personnel constitute the principal indicator in accordance with which the amounts of acceptances at VUZ's in each field of specialization are determined. Unfortunately, until recent times serious errors have been allowed in the determination of these needs at a number of ministries and departments. For example, the USSR Ministry of the Petroleum Industry in its proposals for the period extending until 1985 determined the prospective need for specialists for 1982 as being 4,300 persons, but by the time of the graduates' distribution in 1982, it declared a need for 7,900 persons. The exact same thing happened in the USSR Ministry of the Coal Industry: the prospective need was determined as amounting to 6,900, while by the time of the distribution it was set at 10,500 specialists. But now the USSR Ministry of the Electrical Equipment

Industry, on the contrary, in determining the need for specialists for the future indicated 8,500 persons for 1982, but by the time of the distribution it requested only 6,200 persons.

Need we explain how such mistakes hinder the work of the higher schools?!

In order to ensure the determination of the scope of the prospective needs corresponding to the actual needs of the national economy and guaranteeing the effective utilization of labor resources, the USSR Council of Ministers as far back as 1978 obligated all ministries and departments to work out sectorial methodological directives for determining the need for specialists, as well as scientifically based norms for filling up the sectors of the national economy with specialists. It was also prescribed that standardized nomenclatures of positions be compiled and approved, positions subject to being filled by specialists with a higher or a secondary education; particular attention was to be paid to the necessity for a more correct correlation between the number of engineers and technicians, taking into consideration the specifics of each sector.

In order to render assistance to the sectorial ministries and departments, as well as to the councils of ministers of the union republics in this matter, the USSR Ministry of Higher and Secondary Specialized Educational Institutions developed and sent to them methodological recommendations concerning the preparation of the above-mentioned normative documents, and it conducted a whole series of consultations. However, the creation of these extremely necessary documents was dragged out unjustifiably. At the present time methodological directives regarding the determination of the need for personnel have been worked out and coordinated by only 69, and the norms of filling them--by only 10 ministries and departments of the USSR out of the total of 87. Matters stand even worse in the Union republics: out of 120 of their ministries and departments, the indicated documents have been worked out by only 8.

Further procrastination in preparing this documentation is intolerable, since it entails errors in planning the development of higher and secondary specialized education for the period until the year 2000. The sectorial ministries and departments ought to complete the preparation of normative documents during the current six-month period. The VUZ scientists and, above all, the economists are called upon for a great deal of aid in this work.

Current planning of the training of specialists is hindered by the inertia of a number of VUZ's, which expresses itself in the striving to maintain the scope of training personnel and at times even to expand it, despite the fact that a surplus of specialists of a given profile has already manifested itself; to a certain degree, this hinders the expansion of training personnel in fields of specialization which are in short supply.

The USSR Ministry of Higher and Secondary Specialized Educational Institutions has entrusted the corresponding ministries of the Union republics with the task of bringing, within the briefest possible time period, the scope of training specialists in each field of specialization into full accord with the need for them by the sectors of the national economy. Quite a bit has been accomplished

In this area in the educational institutions under the jurisdiction of the ministries of higher and secondary specialized educational institutions of Belorussia, Uzbekistan, and Kazakhstan. But this is only a beginning. Such work must be persistently engaged in by all administrative organs of the higher schools and, together with the VUZ's, we must eliminate in the briefest possible time period the disproportion which has taken shape. For the time being, this process is going on very slowly.

Thus, in order that the scope of training specialists in Field No 0608--"Computers"--in the USSR's VUZ's correspond to the needs of this republic's national economy, the amount of acceptances in 1983 needed expanding as compared with the plan acceptance for 1980 by 3,125 persons (of these by 1,425 in the daytime instruction format), whereas it was increased by only 175 persons in the daytime format. With regard to this field of specialization, the Ukraine's VUZ's needed to expand their acceptances by 650 persons (of these, 450 should have been in the daytime format); but they expanded it by only 130 persons (by 75 in the daytime format of instruction).

The process of bringing the scope of personnel training into line with the needs for them should be organically linked with the expansion of cooperation between the VUZ's of the Union republics, the ministries, and departments. During the last few years quite a bit has been accomplished in this field. However, many VUZ's of the Baltic Area, Transcaucasia, and Central Asia have still continued to conduct duplicate training of personnel in the same fields of specialization with the acceptance at each of them of 25 persons. For example, in the fields entitled "Machinery and Apparatus of the Textile Industry" and "Chemical Technology of Binding Materials" such training is being carried out at the VUZ's of Georgia, Armenia, and Azerbaijan; in the fields entitled "Technology and Equipment for Prospecting Mineral Deposits" and "Physical Metallurgy, Equipment, and Technology of the Heat Treatment of Metals" such training is being carried out at the VUZ's of Georgia and Armenia.

In a number of VUZ's the training of personnel by fields, the acceptance for which does not exceed 25 persons, has not been provided with the necessary educational-material base or teaching staffs, and this lowers the quality of the training. Therefore, the Union republic ministries of higher and secondary specialized educational institutions, along with the rectors of the VUZ's, must examine time after time the feasibility of training personnel in fields with small numbers of acceptances in each given case, and they must determine whether it should be continued or transferred to the VUZ's of other republics within a cooperative procedure. This would allow them to solve the problem of VUZ specialization at the same time.

The trends of the contemporary development of the higher school require the concentration in certain VUZ's of personnel training in related fields of specialization. This work should not be regarded as a campaign; it should be conducted constantly, above all, on the basis of expanding the cooperation among VUZ's in training personnel with regard to individual fields of specialization (it should be entrusted to those VUZ's which have the necessary educational-material base and a highly qualified teaching staff).



In working out the plans for training specialists particular attention must be paid to its targeted forms: sending working youths to study with the stipends paid by the enterprise; selection and acceptance at VUZ's of young persons living in those regions where the places of their future work are located; selection and sending of young persons to the country's central VUZ's under the conditions of non-competitive acceptance and under the cooperative procedure. Practical experience in training specialists with the use of targeted forms has confirmed the high degree of effectiveness of such a system, since it allows us to improve the quality of the theoretical and especially the practical instruction, to more firmly attach the young specialists to their places of appointment, to create for them better conditions for their professional and sociopolitical growth. It is important to note that success in implementing this system is directly dependent on the firmness of the contacts between the educational institutions and the enterprises: the broader and stronger these contacts, the more successful is the solution of the problem of enrolling workers of these enterprises and the young persons of the region in which they are located at the VUZ's.

The USSR Ministry of Higher and Secondary Specialized Educational Institutions has examined and approved a standardized agreement between a VUZ and an enterprise. The task now consists in broadening the ties between the educational institutions and the enterprises on the basis of concluding such agreements, also providing for targeted forms of training specialists, including that under the conditions provided for by the decree of the USSR Council of Ministers "On the Participation of Industrial Enterprises, Sovkhozes, Kolkhozes in the Enrollment at VUZ's and Tekhnikums, as well as in Training Specialists for Their Own Enterprises" (1979).

Satisfying the needs of the sectors of the national economy for specialists depends to a very large degree on the observance and strengthening of plan discipline, above all, on the unconditional fulfillment by the VUZ's of the approved plans for training and graduating highly qualified personnel in each field of specialization. It must be acknowledged that there are still some educational institutions which do not accord the necessary importance to this concluding phase of the instructional process. As a result, there is a large drop-out rate among the students and a non-fulfillment of the plan for the graduation of specialists. Thus, during the 10th Five-Year Plan in fulfilling the plan for the graduation of specialists for the country as a whole, the VUZ's of Kazakhstan, Georgia, Kirgizia, and Tajikistan, as well as those of the USSR Ministry of the Maritime Fleet and the USSR Ministry of the Fish Industry, did not fulfill the plan for graduation. And this was not by chance, since it was precisely in these VUZ's a high drop-out rate of students was permitted, in particular, because of a lack of achievement. An unjustifiably high drop-out rate of students has continued to be maintained during the 11th Five-Year Plan as well. For example, in the VUZ's of the Ministry of Railways in 1982 the drop-out rate among students enrolled in the daytime format of instruction amounted to 4.6 percent, in the VUZ's of the USSR Ministry of the Fish Industry this figure was 4.2 percent, and for those of the USSR Ministry of Communications it was 4.1 percent (on an average for all the VUZ's of the country this figure was 3.3 percent).

The 26th Congress of the CPSU defined the task of the higher and secondary specialized school for the period 1981--1985 as the training and sending into the national economy of 10.5 million specialists, of whom 4.1 million are to have a higher education. This task is very intensive. Therefore, the VUZ groups and the organs administering them must think in a multi-faceted and profound manner and determine specific measures for raising the scientific level of the educational-indoctrinational process, ensure the rendering of specific assistance to every student during the course of his educational work. Particular attention must be paid to assistance for first-year students, who are still just getting used to VUZ conditions. It is not by chance that it is precisely the initial period of instruction at a VUZ which accounts for the highest drop-out rates.

Of course, we can in no way be reconciled with the fact that at a number of VUZ's drop-outs are observed in the concluding phase of training specialists. Each year in the defense of diploma projects and the taking of state exams about 10,000 students receive unsatisfactory marks. Moreover, if for the higher schools as a whole the proportion of persons receiving unsatisfactory marks in the defense of their diploma projects and the taking of state exams amounts to 1.2 percent of the total number of those finishing, in the VUZ's of Kirgizia this figure is much higher, amounting to 5.1 percent, for Georgia--5, Armenia--4, and Tajikistan--3.8 percent. In this connection, the ministries of higher and secondary specialized educational institutions of the Union republics, the ministries and departments having VUZ's, and the rectors of educational institutions must constantly and attentively investigate the work of the graduating departments and achieve a situation whereby they have a good knowledge of the status of the educational affairs of each student and not only exercise monitoring controls but also render necessary assistance to the future specialists.

The system of distribution of graduates requires further improvement. As is known, the VUZ's must not only train personnel having good theoretical and practical knowledge, but also indoctrinate them as active builders of our society, ready to work in any sections, in any regions where they are needed by the Motherland.

Many VUZ's are conducting a great deal of work likewise in the formation of the plan for the distribution of specialists both during the period of preparations for the work of the commissions on distribution and during the course of the personnel distribution itself; they are exercising monitoring controls over the arrival of young specialists at the places of their appointment, and they are aiding them when necessary. Therefore, the overwhelming majority of young specialists receive their work assignments with a feeling of high responsibility; they arrive on time at the places of appointment and are immediately included in the active production and social activities.

However, we do have quite a few exceptions to this rule. A limited portion of the young specialists do not arrive at the places of appointment; some of them for various reasons quit their jobs prior to the expiration of the three-year period. As a result, certain individual enterprises, construction projects, hospitals, schools, and other institutions remain without appropriate specialists; at the same time, persons who do not arrive at the places of appointment are frequently

utilized in different fields of specialization and ineffectively. Thus, in 1981 out of 6,304 graduates of the VUZ's of the Tajik SSR, 1,098 persons, or almost 17.5 percent, did not arrive at work in accordance with their distribution; out of 4,613 graduates of Armenia's VUZ's, 630 persons, or 13.6 percent, did not arrive at the places to which they had been appointed.

The VUZ's are greatly to blame in all this. Some of them, in violation of the Statute regarding inter-republican, inter-departmental, and personnel distribution of young specialists who have graduated from higher and secondary specialized educational institutions, do not carry out the necessary preparatory work; they do not acquire from the ministries and departments to whose enterprises their graduates are being sent information about all the conditions of their future work (provision of housing, regarding their duties, wages, nature of the work, etc.). As a result, it sometimes turns out that certain enterprises are not prepared to receive the specialists.

There are still quite a few instances of the unjustified granting to certain VUZ graduates of the so-called right of independent job placement, and this also leads to their being used ineffectively. In 1982 such a right was granted to more than 18,000 young specialists. Such a right is granted particularly "freely" in the VUZ's of Georgia, as well as in the VUZ's of the USSR Ministry of Culture, and the USSR Ministry of the Medical Industry, which, by the way, frequently do not fulfill their plans for the distribution of young specialists.

The interests of the state, as well as those of the young specialists themselves, require that each graduate be distributed and that he continue to work for a minimum of three years in the place to which he has been sent by the commission on distribution. It is precisely during the course of these three years that the young specialist, with the aid of enterprises, institutions, and organizations, should grow into a full-valued worker, a conveyor and performer of progressive ideas and advanced experience, as well as a leader in the work group.

The significance of precise, painstaking work, directed at the distribution of specialists, has increased even more because, beginning in 1982, the system of distribution two or three years prior to the students completing the educational institution was introduced (with a transition in the future to the distribution by as much as five years prior to the students completing the educational institution). In 1982 the distribution two years prior to graduation was already being carried out in 223 fields of specialization. The experience of a number of VUZ's has shown that the successful carrying out of an earlier distribution of future specialists is possible provided that the deans' offices and each graduating department are drawn into this work and provided that there is a close connection between the VUZ's and the groups at the enterprises and organizations to which the graduates are being sent.

During the present year the organs administering the VUZ's must develop plans for the basic directions of the development of higher and secondary specialized education in the republics and in the appropriate sectors of the national economy until the year 2000. In working out these plans, it is necessary to take into account the characteristics of the contemporary period. These are, above all,

accelerating the pace of scientific and technical progress, the high degree of saturation of the sectors of the national economy with specialists, the unfavorable demographic situation in the country, the need for a more effective utilization of specialists, and several other factors. All these circumstances must be profoundly studied, summarized, and taken into consideration in developing suggestions.

Implementation of the measures for further improving the planning of the training of personnel, their effective utilization in accordance with the field of specialization in which they have been trained will allow us to provide in the fullest possible manner the national economy with highly qualified personnel; it will facilitate speeding up the development of scientific and technical progress in all sectors of the national economy, as well as an increase in the effectiveness of social production.

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